The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

VOL. 23. No. 21-A TULSA, OKLAHOMA, OCTOBER 16, 1924

Copyright, 1924, by The Petroleum Publishing Co.

TABLE OF CONTENTS

SPECIAL ARTICLES

Another Big Drop in Crude Production 19
By Andrew M. Rowley
Output of country has declined 58,000 bbls. daily in three weeks. Prairie paying for all oil run.

Expect Amendment of Anti-Trust Law 20
By L. M. Fanning
Chamber of Commerce of the United States anxious for clarification of statute on trade associations.

Public's Investment in Motor Vehicles 21
By Charles E. Bowles
$10,000,000,000 in cars and trucks—and $4,000,000,000 for upkeep and taxes in 1924.

Registration Plan Enormous Success 23
More than 16,000 oil men deposited coupons at 100 booths at exposition. List of winners is announced.

Helium Future Field for Gas Industry (Photos) 24-25
By Charles E. Kern
Use of dirigibles in war and commerce will necessitate procuring large quantities.

Is Gasoline Price Level to Remain Low? 28
By L. M. Fanning
Suggested Industry turn to fuel oil and other products to carry burden motor fuel cannot.

Development of Fuel Oil Sales to Offset Gasoline Losses 28
By N. O. Fanning

Fire Prevention in Oil Properties (Photographs) 32
By Frank A. Epps
Fundamental conditions which give rise to fires in tanks and stills; Static electricity and carelessness.

The Future of The Exposition (Editorial) 34

Recent Experiment Station Activities 58
By M. J. Kirwan
Review of work at Bureau of Mines, Bartlesville, Okla., and investigations under way.

Standard of Indiana Answer in Missouri Suit 58

Youngest Oil Field in Louisiana (Illustrated) 62-64
By H. W. Bell and M. W. Grimm
Cotton Valley area, possibly seven square miles, to be tested on southern flank.

Must Change Mental Attitude on Production 74
By H. L. Horning

Industry's Relations With General Public 84
By Fayette B. Dow

Education and the Industry 86
By Axtell J. Byles

Principles of Oil Shale Retorting (Illustrated) 92
By Joe E. Meyer
Report of investigation by Colorado School of Mines on distillation of oil from shale.

Petroleum Securities Reactionary 114
By N. O. Fanning
Twenty representative stocks reach new low on October 6, attributable to reductions in gasoline prices and oil in storage.

Resolution Is Signed by 92 Exhibitors 115

Prairie Now Paying for All Oil It Runs 119

FIELD OPERATIONS

Oklahoma 36
By C. D. Lockwood

Kansas 38
By C. D. Lockwood

Rocky Mountain Area 40
By F. B. Taylor

Gulf Coast Operations 42
By P. L. McGreal

North Louisiana and Arkansas 43
By M. L. Vaughn

North Central Texas 44
By Dan F. Dugan

West Kentucky-Tennessee 48
By Vern T. Whitney

Pennsylvania-West Virginia 50
By D. S. Wakenight

California 52
By L. P. Stockman

Canada 53
By Victor Lauriston

Central West 56
By Whit

REFINING AND MARKETING

U. S. Motor Gasolines Higher in Group 3 22
By C. O. Willson
Domestic motor grades advance ¼ cent with greater activity both in domestic and export market. Only minor changes in other products.

Crude and Refined Prices 26-27

Tank Wagon Quotations 30

Average Gasoline Prices, 50 Cities, Lowest for Year 86

Refining and Marketing News 90

Gasoline Business Good at Chicago 94
By John B. Waldo

Eastern Market Tone Downward 96
By N. O. Fanning

Refinery Statistics for August 112

ARTICLES OF GENERAL INTEREST

The Advertisers' Index 17

Equipment and Supplies 66

Pipe Prices on New Basis 66
By B. E. V. Luty

Natural Gas Developments 68

Men Known in Oildom and Personals 70

New Fields for Gasoline Engine 90
By H. L. Horning

Classified Want Advertisements 102-103

Detailed Operations in All Fields 130

Crude Petroleum Statistics 144

BE A REGULAR READER

The OIL and GAS JOURNAL Tulsa, Okla.

You are hereby directed to mail The Oil and Gas Journal to me for.....year. Enclosed find remittance $.....

Classify my interests as checked by me.

.....Producing .....Refining

.....Equipment .....Marketing

Name .....

Address .....

City .....

$6 a Year

$3 6 Months

The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

VOL. 23. No. 21-A TULSA, OKLAHOMA, OCTOBER 16, 1924

Copyright, 1924, by The Petroleum Publishing Co.

TABLE OF CONTENTS

SPECIAL ARTICLES

Another Big Drop in Crude Production 19
By Andrew M. Rowley
Output of country has declined 58,000 bbls. daily in three weeks. Prairie paying for all oil run.

Expect Amendment of Anti-Trust Law 20
By L. M. Fanning
Chamber of Commerce of the United States anxious for clarification of statute on trade associations.

Public's Investment in Motor Vehicles 21
By Charles E. Bowles
$10,000,000,000 in cars and trucks—and $4,000,000,000 for upkeep and taxes in 1924.

Registration Plan Enormous Success 23
More than 16,000 oil men deposited coupons at 100 booths at exposition. List of winners is announced.

Helium Future Field for Gas Industry (Photos) 24-25
By Charles E. Kern
Use of dirigibles in war and commerce will necessitate procuring large quantities.

Is Gasoline Price Level to Remain Low? 28
By L. M. Fanning
Suggested Industry turn to fuel oil and other products to carry burden motor fuel cannot.

Development of Fuel Oil Sales to Offset Gasoline Losses 28
By N. O. Fanning

Fire Prevention in Oil Properties (Photographs) 32
By Frank A. Epps
Fundamental conditions which give rise to fires in tanks and stills; Static electricity and carelessness.

The Future of The Exposition (Editorial) 34

Recent Experiment Station Activities 58
By M. J. Kirwan
Review of work at Bureau of Mines, Bartlesville, Okla., and investigations under way.

Standard of Indiana Answer in Missouri Suit 58

Youngest Oil Field in Louisiana (Illustrated) 62-64
By H. W. Bell and M. W. Grimm
Cotton Valley area, possibly seven square miles, to be tested on southern flank.

Must Change Mental Attitude on Production 74
By H. L. Horning

Industry's Relations With General Public 84
By Fayette B. Dow

Education and the Industry 86
By Axtell J. Byles

Principles of Oil Shale Retorting (Illustrated) 92
By Joe E. Meyer
Report of investigation by Colorado School of Mines on distillation of oil from shale.

Petroleum Securities Reactionary 114
By N. O. Fanning
Twenty representative stocks reach new low on October 6, attributable to reductions in gasoline prices and oil in storage.

Resolution Is Signed by 92 Exhibitors 115

Prairie Now Paying for All Oil It Runs 119

FIELD OPERATIONS

Oklahoma 36
By C. D. Lockwood

Kansas 38
By C. D. Lockwood

Rocky Mountain Area 40
By F. B. Taylor

Gulf Coast Operations 42
By P. L. McGreal

North Louisiana and Arkansas 43
By M. L. Vaughn

North Central Texas 44
By Dan F. Dugan

West Kentucky-Tennessee 48
By Vern T. Whitney

Pennsylvania-West Virginia 50
By D. S. Wakenight

California 52
By L. P. Stockman

Canada 53
By Victor Lauriston

Central West 56
By Whit

REFINING AND MARKETING

U. S. Motor Gasolines Higher in Group 3 22
By C. O. Willson
Domestic motor grades advance ¼ cent with greater activity both in domestic and export market. Only minor changes in other products.

Crude and Refined Prices 26-27

Tank Wagon Quotations 30

Average Gasoline Prices, 50 Cities, Lowest for Year 86

Refining and Marketing News 90

Gasoline Business Good at Chicago 94
By John B. Waldo

Eastern Market Tone Downward 96
By N. O. Fanning

Refinery Statistics for August 112

ARTICLES OF GENERAL INTEREST

The Advertisers' Index 17

Equipment and Supplies 66

Pipe Prices on New Basis 66
By B. E. V. Luty

Natural Gas Developments 68

Men Known in Oildom and Personals 70

New Fields for Gasoline Engine 90
By H. L. Horning

Classified Want Advertisements 102-103

Detailed Operations in All Fields 130

Crude Petroleum Statistics 144

BE A REGULAR READER

The OIL and GAS JOURNAL Tulsa, Okla.

You are hereby directed to mail The Oil and Gas Journal to me for.....year. Enclosed find remittance $.....

Classify my interests as checked by me.

.....Producing .....Refining

.....Equipment .....Marketing

Name .....

Address .....

City .....

$6 a Year

$3 6 Months

Another Big Drop in Crude Production

Average daily production in United States week ended Oct. 11, 1,973 215 bbls. Loss from previous week, 16,845 bbls.

Output of Country Has Declined 58,000 bbls. Daily in Three Weeks. Prairie Paying For All Oil Run

Highest daily average estimated production this year, week ended Aug. 23, 2,057,-319 bbls. Lowest, January 12. 1,871,143 bbls.

By Andrew M. Rowley

Production of crude petroleum in all fields of the United States, as estimated weekly by The Oil and Gas Journal, has decreased 58,844 barrels a day during the past three weeks, declining 16,845 barrels daily last week after having dropped 16,415 barrels a day the week before and 25,584 barrels daily during the week ending September 27. A majority of the main producing areas of the country have contributed to this decline, Oklahoma again showing the greatest drop during the past week while California recorded a greater decrease than for a number of weeks past, its output falling off 4,500 barrels daily.

Despite this substantial decline in production during the past few weeks, the output of the fields of the United States is still more than 100 000 barrels a day higher than the estimated average for the week ending January 12 of this year, which was the low point in production so far this year.

A somewhat different situation confronts the oil industry this fall and at the aproach of winter than was the case during previous years. It results from the rapid increase through many sections of the United States in the number of installations of oil burners in homes, apartments, hotels and public buildings. It is expected a vast quantity of distillates will be sold this fall and winter to supply this oil burner demand and such sales are bound to have an effect upon the general price structure of the oil market. It may serve merely to maintain crude prices upon a firmer basis but this would be most important in view of the continued high crude production and the fact crude has been going into storage for some time.

The demand for fuel oil from users of oil burners together with the increasing use of oil as fuel for marine vessels and in various branches of the manufacturing industry has gone a long way towards eliminating a minimum and maximum period for crude oil consumption. When gasoline was the chiefly desired product of crude it was natural the greater demand was experienced during the summer motoring season. With the demand now for fuel oil and distillates, the winter consumption of crude is bound to show substantial gains. The fact prices for fuel oil and distillates have either held very firm or have advanced during the past few weeks while gasoline prices have weakened is indicative of the situation.

While a much more optimistic view of the situation is being taken than was the case in the near past, operators should not lose sight of the fact crude is still being put into storage and that the enormous quantities of crude in storage will certainly act as a strong deterrent to any advances in prices of crude.

In this connection it would be unfortunate for the industry and especially operators in the Mid-Continent area if the announcement made on Tuesday of this week by the Prairie Oil & Gas Company that it will pay for all the oil it runs, instead of paying for half and storing the other half, is taken by operators to mean the worst has passed and that a drilling camp ign can be inaugurated now with safety. The announcement, published in another section of this issue, will aid operators in the Mid-Continent greatly, but the benefit to accrue to them would soon be lost if production is permitted to increase. There is a general belief that the bottom has been reached regarding oil prices but this situation would change overnight were operators to increase drilling operations at this time.

Three additional producers from the deep sand area of the Tonkawa Field in Oklahoma were completed during the past week. An interesting development in the Cromwell Field area was the striking of a big gas flow in the test of the Tidal-Osage Oil Company in Section 14-10-8, the first well to be drilled on the Okfuskee County side of the field. The well made 2,000 000 feet of gas at 3,503 feet and, when deepened 1 foot, increased this flow to 4,000,000 feet.

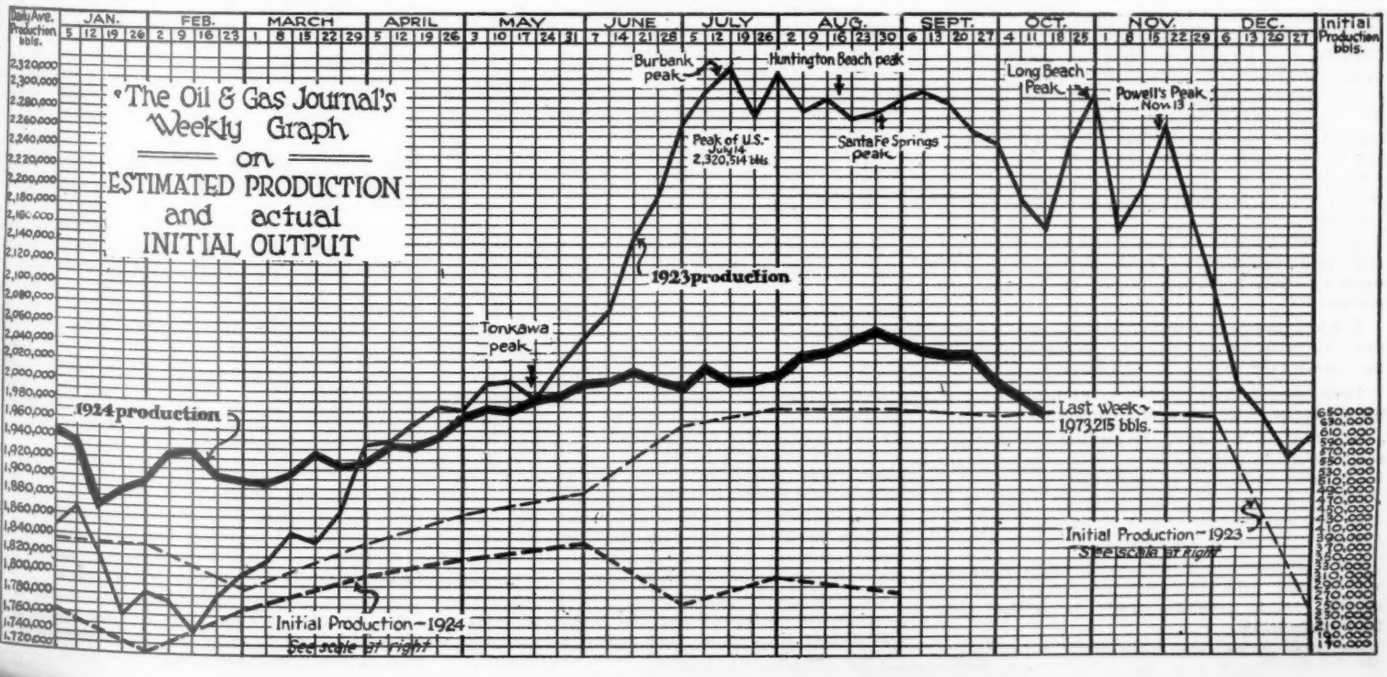
In the Rocky Mountain area, three wildcat tests in Colorado struck water in the Dakota formation where it was expected oil would be found. One of these wells is on the outskirts of the city of Pueblo. Holders of lands on the outskirts of the Salt Creek Field were encouraged during the week by the striking of oil in a test in Section 35-39-78 at the shallow depth of 850 feet. The well is located at the other end of the field from the Shannon Pool and on the east side of Teapot Dome. The production is coming from the Shannon sand which sand was primarily responsible for the opening of the Salt Creek Field.

PRODUCTION IN THE UNITED STATES

Estimated daily average production in the oil fields of the United States for the week ended October 11, and a comparison with previous week follows:

	Oct. 11	Oct. 4
Oklahoma—Northern Fields:		
Tonkawa	99,465	102,685
Burbank	75,120	76,440
Other Osage Fields	44,200	44,170
Cushing and Shamrock	23,670	23 685
Bristow and Eastern Bristow	46,425	46,615
Cromwe l	39,575	40.635
Stroud	9,330	11,890
Northern Miscellaneous	108,310	108,325
Southern Fields	68,780	69,100
Total Oklahoma	514.875	523,575
North Louisiana	51,650	53,930
Arkansas—		
El Dorado and Calion	11,765	12,065
Smackover Light	34,860	35,420
Smackover Heavy	79,815	78,765
Stephens and Nevada	3,840	3.640
Total Arkansas	130,280	129,890
North Central Texas	120,515	121,400
Powell	75,400	76,500
Mexia, Currie, Richland, etc.	53,410	53,100
Kansas	84,050	84,525
Total Mid-Continent Area	1,030,180	1,042,920
Gulf Coast	85,770	85,170
Southwest Texas	36 630	36,895
Eastern	107,250	107,980
Rocky Mountain Area	107,885	107,095
California—		
Santa Fe Springs	54,000	54,000
Long Beach	138,000	141,000
Huntington Beach	39,000	39,000
Torrance	50,000	52,000
Dominguez	33,500	34,000
Remainder of State	291,000	290,000
Total California	605,500	610,000
Total United States	1,973,215	1,990,060

DECREASE, 16,845 BARRELS


The Oil & Gas Journal's Weekly Graph on ESTIMATED PRODUCTION and actual INITIAL OUTPUT
Daily Ave. Production bbls.
Initial Production bbls.
JAN. FEB. MARCH APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.
Burbank peak
Huntington Beach peak
Long Beach Peak
Powell's Peak Nov 13
Peak of U.S. July 14 2,320,514 bbls
Santa Fe Springs peak
1923 production
Tonkawa peak
1924 production
Last week 1,973,215 bbls.
Initial Production—1923 See scale at right
Initial Production—1924 See scale at right

Expect Amendment of Anti-Trust Law

Chamber of Commerce of United States Anxious for Clarification of Statute on Trade Association Activity

By L. M. Fanning

To Amend Anti-Trust Law

The recent effort of the Chamber of Commerce of the United States to obtain an expression of opinion from Attorney General Stone so that legal uncertainties surrounding the activities of trade associations might be cleared up, is of special interest to the petroleum industry in view of the action of the Western Petroleum Refiners Association discontinuing its weekly statistics of Mid-Continent refining operations which action it attributed to possible illegality of the service. The association based its action on the opinion of Harry M. Daugherty, formerly attorney general, made in a letter to Secretary Hoover of the Department of Commerce. After recent conferences in Washington with Attorney General Stone it was indicated that proposals for new legislation to amend the Sherman anti-trust act might develop as a possible means of clarifying the situation. It is thought that this step will be taken in the event that Mr. Stone declines to give a general view of the law which would serve as a guide for trade associations. He had indicated that the Department of Justice will not undertake to give such a view inasmuch as he believes it would be setting up the department as a business advisor. Attorney General Stone has taken the recommendations of the Chamber of Commerce under consideration and has instructed experts of the department who specialize in anti-trust laws to study the matter. They will report to him prior to a further conference which has been arranged between him and the special committee of the Chamber of Commerce which will be held on November 20.

* * * * *

Form of Legislation in Doubt

Just what form the suggested legislation regarding activities of trade associations will take is still in doubt. Inquiry at the Chamber of Commerce of the United States revealed that the officers are still hopeful that the Government would give an expression of opinion which would serve as guide without necessity for such action. Richard F. Grant, president of the chamber, pointed out that the chamber was against the settlement of the trade association question through judicial interpretation in the form of a test case, as it would mean a long-drawn out litigation with no assurance that the decision would cover the general situation. The chamber, while considering the possibility of a legislative program, has not yet shaped this up so that it is ready to make any announcement. The policy of the Chamber of Commerce with respect to the proper functions of trade associations was adopted by referendum vote of the membership and is summed up as follows:

Because of numerous useful and important functions of obvious propriety trade associations should exist for each important branch of industry and commerce.

A trade association should be prepared to consider all problems affecting the general advance of its industry or branch of commerce.

Trade associations should continue free from special forms of governmental control.

Statistics of capacity, production, stocks, and sales should be collected by a trade association for its industry or branch of commerce.

Statistics of actual prices in closed transactions should be collected by a trade association for its industry or branch of commerce.

Any interpretation of statistics or other comment which could induce or facilitate concerted action on the part of members should be omitted by a trade association.

Statistics of capacity, production, stocks, sales, and prices a trade association should make as available to the public and to government agencies interested in following the course of industry and commerce as to members.

* * * * *

Statistical Activities

In view of the petroleum industry's interest in the subject, The Oil and Gas Journal has obtained from the Chamber of Commerce of the United States a report of its committee on trade associations, and presents the part of the report devoted to statistical activities, as follows:

As much recent discussion of trade associations has centered around their statistical activities your committee calls attention to some fundamental principles. The business enterprises which take a raw material of limited or no direct utility in its original state, turn it into commodities of high utility and place them where they meet the needs, the comforts, and the luxuries of the purchasing public, or the market, are creators of economic wealth and upon their success depends the welfare of the community. Each separate enterprise, when equipped with the knowledge, skill, and resources to make what the market will buy, must answer three questions before it can participate in this creation of economic wealth. They are: What does it cost to produce the commodity? What is the extent of the demand? What price will be obtained?

Unless these questions are clearly answered, no enterprise is warranted in beginning operation or in hoping to serve the community in a steady and beneficial way. Without definite answers, there can only follow in time bankruptcy on the part or the enterprise and industrial confusion and loss for the community. If the economic welfare of the community as a whole is to be maintained, if labor is to be steadily employed, if trade is to go on, if business is to expand, if money is to circulate freely, if the general credit structure is to be maintained, then every business enterprise which has a proper place in the community must have the fullest and most definite information on the subject of production, markets, and prices. For the wholesale or retail distributor such information is as important as for the manufacturer or the enterprise which converts the raw material into a form in which it is available for manufacture. It is equally advantageous to the general purchasing public that the business enterprises should have this full and exact information; for the purchasing public is, in one capacity or another, an integral part of the manufacturing and distributing process taken as a whole. In the nature of things, the public cannot be divided into one group of producers and distributors and a separate group of consumers.

* * * * *

Rules for Trade Associations

Trade associations have included in their activities the operation of a department of statistics for the speedy and economic gathering and distributing of information regarding their commodities. The slow, expensive, and sometimes questionable methods that individual manufacturers and merchants have employed to obtain vitally needed information on production, markets and prices are superseded by the open, direct, and economically efficient procedure of trade associations. That the courts and investigations made by the Secretary of Commerce have disclosed a small minority of associations which may have misused statistics in carrying out a scheme to restrain trade we believe in no way invalidates or discredits legitimate collection and distribution of trade statistics by associations. On the contrary, your committee is confident that proper statistical activities on the part of trade associations not only do not run in contravention laws respecting restraints of trade but actively encourage and develop trade. In considering statistical activities of trade associations and the value of statistics to business enterprise and the public, the committee has formulated several rules which are simple in statement and which it submits as recommendations: Reports of members to their association should be accurate and sufficiently complete to prevent misconstruction; As distributed to the membership, the statistics should not be accompanied with any interpretation or other comment which could induce or facilitate concerted action on the part of members; All statistics regarding prices should be confined to closed transactions, and should not refer to pending transactions or future transactions.

* * * * *

Collection of Price Statistics

The reasons for these rules are obvious. If members do not make the data they supply accurate they defeat the purpose of trade statistics; for the figures will mislead as to the facts, instead of stating them. If statistics are properly collected and compiled, they set out the facts upon which each person who uses them can base his judgment as to the business course he should pursue and they thus fulfill the purpose upon which the committee has earlier placed great emphasis. It is no part of the function of a trade association to attempt to obtain concerted action by advising members how to conduct their own business. Price statistics for closed transactions show facts; the function of collecting and distributing these is consequently reportorial.

It has been contended in some quarters that summaries, average prices on typical lines, or figures grouped together according to territorial districts are sufficient. The committee believes, however, that for the use of the members of most trade associations more detailed information is necessary and can see no objection to the distribution of such information to the members and to the public.

The statistics which the committee has under consideration present the facts of industry and commerce. Such facts should be made available to the public and all government agencies which may be interested in following the course of industry and commerce. Your committee therefore recommends that every trade association that collects statistics should, immediately upon issuing the statistics to the membership, furnish them to the public press and to the Department of Commerce, the Federal Trade Commission, the Department of Justice, and such other government agencies as may have use for them.

Summarizing the preceding discussion, the committee believes that trustworthy information concerning capacity, production, stocks, sales, and prices is essential to the effective operation of industry and trade under competitive conditions. The voluntary reporting of such information to trade associations and the subsequent publication or dissemination of such information in a manner which makes it available not only to contributors but also to consumers and to the public generally is beneficial alike to the field of business and the public and does not constitute a restraint of trade.

* * * * *

S. O. Tower Lights Mariners

The Standard Oil Company of New York is installing in the tower of the new building at 26 Broadway four powerful lights of great value both to ships entering the harbor and to aviators flying over New York at night. The lights, one at each corner of the tower, will be 582 feet 5 inches above sea level. The candle power of each light will be 2,700, visible at 7 miles.

Public's Investment In Motor Vehicles

$10,000,000,000 in Cars and Trucks—and $4,000,000,000 for Upkeep and Taxes in 1924

By Charles E. Bowles

At the close of the year 1923 the public had a "fixed investment" in automobiles and motor trucks of about $8,000,000,000.

During the year the public spent for "upkeep" in the shape of gasoline, tires, accessories and replacements over $2,900,000,000.

And during the year the public paid in Federal and State taxes and licenses over $450,000,000.

In other words, the public had invested over $8,000,000,000 in cars and trucks—and spent $3,400,000,000 in keeping them going.

It is estimated that at the end of 1924 the registration of cars and trucks will be slightly under 18,000,000—that the investment will be well over $10,000,000,000—and that the upkeep and taxes will be slightly over $4,000,000,000 for the year.

Up to 25 years ago the word "transportation" immediately suggested one great outstanding type—the railroad. It had done far more to facilitate our internal development, commercially and industrially, than all other forms of transportation combined, and naturally the American people had come to think of transportation almost wholly in terms of railroads. For a half century—from about 1,850 to the coming of the automobile—the railroad symbolized our most highly developed form of land transportation.

In the last 25 years, and especially during the last 10 years, the automobile and the motor truck have brought to the American people a new type of transportation that is radically and essentially different from the railroad.

More Passenger Miles

Today the automobiles are carrying our people more "passenger miles" than the passenger trains are carrying—and the motor trucks are carrying almost as much freight as the freight trains are carrying—but not over as long mileage hauls.

The growth of the idea of the automobile and motor truck has been so rapid that one can scarcely realize that today the people of the United States own $10,000,000,000 worth of cars and trucks—that they are buying new ones at the rate of over $2,500,000,000 a year—and spending $4,000,000,000 a year on upkeep and taxes.

These figures, dealing with millions and billions are truly staggering—and yet, after a detailed analysis of the last five years' growth of the car and truck industry, one is more amazed to find these huge totals too small, rather than too large.

Referring to Table 1 we find that from 1919 to the end of 1923 the world registration of cars and trucks increased from 8,750,000 to just over 18,000,000, and that the registration for the United States increased from 7,500,000 to 15,000,000. In 1923 the United States had over 83 per cent of all of the cars and trucks in the world.

In 1919 our factories made 1,650,000 cars with a wholesale value of $1,462,000,000. In 1923 they made 3,690,000 cars with a wholesale value of $1,694,000,000. In other words our factories, in 1923, made more than twice as many cars as in 1919, at only a very slight advance in wholesale value.

In 1919 we made 316,000 trucks at $423,000,000 wholesale—in 1923 we made 392,000 at $311,000,000—which means that we made 76,000 more trucks for $112,000,000 less wholesale value.

Taking the cars and trucks together, the output increased from 1,974,000 in 1919 to slightly more than 4,000,000 in 1923, and the wholesale value from $1,885,000,000 in 1919 to just over $2,000,000,000 in 1923.

In 1919 we spent $622,000,000 for parts and accessories—and $247,000,000 in 1923.

In 1919 we spent $660,000,000 for tires for replacement—and $553,000,00 in 1923. With more than twice as many cars and trucks in use in 1923 we spent less dollars for tire replacements than in 1919, due both to cord tires and to better quality fabric tires.

In 1919 the total wholesale value of the 1,974,016 cars and trucks the parts and accessories made during the year and the tires made for replacement, amounted to $3,167,000,000. In 1923 the same items for 4,086,997 cars and trucks totaled only $2,805,000,000.

Nothing could more clearly indicate the fundamental changes that are taking place in the manufacture of cars and trucks than the fact that in 1923 the factories made more than twice as many vehicles as in 1919, with $350,000,000 less wholesale value.

Amazing Growth

In 1919 there were 131 automobile factories with a capital investment of $785,000,000 and 268 truck

(Continued on Page 124)

TABLE NO. 1

Output and Valuation of Motor Vehicle Industry, Including Parts, Accessories and Tires, With Retail Organization

Items	1919	1920	1921	1922	1923
World registration	8,750,000	10,922,278	12,528,272	14,507,588	18,023,584
U. S. registration:					
Cars	6,808,848	8,221,295	9,321,150	10,863,389	13,464,608
Trucks	750,000	990,000	1,127,482	1,375,725	1,627,569
U. S. totals	**7,558,848**	**9,211,295**	**10,448,632**	**12,239,114**	**15,092,177**
Cars manufactured:					
Number	1,657,652	1,883,158	1,514,000	2,406,396	3,694,237
Wholesale value	$1,462,000,000	$1,809,000,000	$1,094,000,000	$1,567,000,000	$1,694,000,000
Trucks manufactured:					
Number	316,364	322,039	154,550	252,668	392,760
Wholesale value	$423,000,000	$424,000,000	$166,000,000	$223,000,000	$311,000,000
Total cars and trucks manufactured	1,974,016	2,205,197	1,661,550	2,659,064	4,086,997
Total wholesale value:					
Cars and trucks	$1,885,000,000	$2,233,000,000	$1,260,000,000	$1,790,000,000	$2,005,000,000
Parts and accessories	622,000,000	725,000,000	410,000,000	380,000,000	247,000,000
Tires for replacement	660,000,000	637,000,000	542,000,000	388,000,000	555,000,000
Total wholesale value	**$3,167,000,000**	**$3,595,000,000**	**$2,212,000,000**	**$2,558,000,000**	**$2,805,000,000**
Factories—Car:					
Number	131	129	177	112	90
Capital invested	$785,000,000	$799,000,000	$1,134,000,000	$1,154,000,000	...
Factories—Truck:					
Number	268	222	230	131	147
Capital invested	$230,000,000	$405,000,000	$289,000,000	303,000,000	...
Total capital invested	**$1,015,000,000**	**$1,204,000,000**	**$1,423,000,000**	**$1,457,000,000**	**$1,572,000,000**
Car and truck factories:					
Employes	300,000	325,000	186,000	253,104	.....
Wages and salaries	$375,000,000	$483,000,000	$297,000,000	$396,000,000	$579,000,000
Tires—Casings manufactured	33,000,000	32,400,000	27,275,000	40,931,000	45,245,000
Total motor vehicles, parts and accessory factories:					
Capital invested	$1,802,000,000	$2,127,000,000	.....	.....	.....
Persons employed	651,000	703,000	.....	.....	.....
Wages and salaries	$814,000,000	$1,042,000,000	.....	.....	.....
Whole value of products	$2,507,000,000	$2,958,000,000	$1,670,000,000	$2,170,000,000	$2,252,000,000
Cars owned by farmers	2,366,475	3,080,810	2,850,000	3,200,000	4,100,000
Trucks owned by farmers	100,000	100,000	150,000	300,000	400,000
Retail Organization—					
Passenger car dealers, exclusive	.....	.....	13,452	15,703	18,759
Truck dealers, exclusive	.....	.....	2,522	2,537	2,323
Both car and truck	.....	.....	21,449	21,298	22,506
Total dealers	**50,681**	**55,841**	**37,423**	**39,538**	**43,588**
Garages	36,227	35,887	43,582	47,426	50,915
Repair shops, service stations	43,643	45,135	57,397	63,560	67,802
Supply dealers	43,333	47,416	58,692	63,316	65,988
Charging stations	4,587	4,204	4,248	4,602	4,202
Total net names	**63,323**	**66,416**	**78,739**	**85,082**	**90,190**

TABLE NO. 2

The Public's Investment in Cars and Trucks, With Upkeep and Taxes

Cars, January 1, 1923	10,863,389	At $400 each	$ 4,300,000,000
Trucks, January 1, 1923	1,375,725	At $750 each	1,000,000,000
Cars and trucks added in 1923	3,864,328	At retail	2,985,000,000
	16,103,442	Valued at	$ 8,285,000,000
Scrapped in 1923	1,011,265	At $100 each	100,000,000
Registration January 1, 1924	15,092,177	Valued at	$ 8,185,000,000
Estimated addition in 1924	3,750,000	At retail	2,500,000,000
	18,842,177	Valued at	$10,685,000,000
Scrapped in 1924	1,000,000	At $100 each	100,000,000
Registration, end of 1924	**17,842,177**	**Valued at**	**$10,585,000,000**

Upkeep for 1923:	Gasoline and oil	$1,326,200,000
	Tires for replacement	714,600,000
	Accessories	251,500,000
	Replacements	655,400,000
		$2,947,700,000
Taxes for 1923:	Federal excise tax	$ 155,800,000
	State gasoline tax	36,814,000
	State registration and license	188,948,000
	Federal tax on motor vehicles for hire	1,907,000
	Personal property tax on motor vehicles	75,000,000
		$ 458,469,000
	Grand total for upkeep and taxes in 1923	**$3,406,169,000**

U. S. Motor Gasoline Higher in Group 3

Domestic Motor Grades Advance 1-4 cent With Greater Activity Both in Domestic and Export Market. Only Minor Changes in Other Products

By C. O. Willson

An advance of ¼-cent in all grades of U. S. Motor gasoline featured developments of the past week in the Group 3 (Oklahoma) refined market. Practically all of the 58-60 U. S. Motor gasoline available under 6¾ cents disappeared from Oklahoma the latter part of last week and with the opening of the market Monday 6¾ cents to 7 cents was being asked by all refiners and resale agents.

There were only minor changes in other products. Continued heavy buying of the absorption grades of natural gasolines by major refining interests held that product firm in price, with the exception of Grade C, which is ¼-cent lower.

Although kerosenes are weaker in some areas, prices were firm in Oklahoma, with less of the lower price material available than a week ago. Due to warmer weather in the Middle West, the demand for distillates has slackened, but spot prices have not been changed. Fuel oil prices are unchanged, with gas oil prices having recovered from the slight price weakness of a week ago.

The higher gasoline prices were the result of more active buying the latter half of last week. Export purchases of both 58-60 U. S. Motor and 64-66, 375 end point in North Texas, coupled with several substantial domestic purchases, in which all sections of the Mid-Continent shared, served to take care of the immediate needs of the refiners who had been offering low price material and these refiners advanced their prices in line with others who have refused to recognize the lowest price levels established the first of the month.

Export Purchases

The export purchases so far as known were confined to the Carson Petroleum Co. and the Sinclair Refining Co., although at least one other company is known to have made inquiries. As usual, Oklahoma refiners did not share in the export business for the reason that refiners in North Texas were willing to sell cheaper and at the same time give the buyer the advantage in freight rate which the North Texas area has over Oklahoma. However, by eliminating the cheap North Texas competition it again enabled the Oklahoma plants to advance their prices so that the customary price relationship between the two areas on gasoline was maintained.

All classes of domestic gasoline buyers were apparently more active. Weather conditions in the Middle West so far this month have been more favorable for gasoline consumption than they were the latter half of September and this has forced jobbers in the market for additional supplies in several instances. This was indicated from the fact that several jobbers who contracted the first of the month for what they thought would cover their October requirements, were forced to buy one or more additional cars on the spot market for additional supplies.

Purchases for Storage

More jobbers also made purchases for storage. The volume of this class of buying is probably not large at the present time. However, several important jobbing concerns in the Middle West have been convinced that gasoline prices are at bottom and they have started filling their storage tanks. Finally there were purchases by major companies who have their own refineries, but who apparently believe they can buy cheaper than they can make it. One of these companies last week cleaned up the last of the 6¼-cent U. S. Motor 58-60 gasoline that was available in this field and North Texas and would have bought more if refiners had offered it. The company is now said to be offering 6½ cents either for North Texas or Group 3 gasoline.

In regard to the future there as as usual, two widely divergent views. Those who have maintained consistently that the gasoline market trend will be down rather than up for the remainder of the year, state that the advance of the past week is due to the unexpected favorable weather. This development is temporary and prices will again slump before the first of November, they state. Of opposite view are the refiners who predicted the advance several weeks ago. They state that every development of the past week in gasoline adds to their belief that the bottom in gasoline prices has been passed. Their attitude, as has been previously outlined in these columns, has to do with what they consider fundamental improvement in both the crude and gasoline situation.

Note of Warning

The only note of warning sounded in the improvement of the past week is concerned with too rapid advances in prices. All market observers agree that the best interests of the market demand conservative action in price advances. Too great an advance will drive the buyers out of the market as it has in the past, bringing the inevitable price slump.

"I hope that refiners will profit from the experiences of the past," said one refiner in discussing this situation. "I am against another advance in New Navy price for at least one week to 10 days. Even if demand should show still further improvement, the best interests of all concerned demand that a steady gasoline movement be maintained and this will not materialize if the refiners attempt to benefit too quickly from the improved situation which is now under way."

In this connection it is said that several prominent executives of the major oil interests, who were in Oklahoma last week attending the International Petroleum Exposition and Congress also stressed the need of conservatism on the part of Mid-Continent refiners, both in plant operation and sales policies. The major oil interests are apparently willing to give all the cooperation possible in preventing a duplication of the unsatisfactory years of 1923 and 1924 in 1925. This means the prevention of too rapid advances in crude and gasoline prices during the fall and winter months. The opposite procedure last year and year before brought high prices in the winter months with slumping markets during the summer months of maximum gasoline consumption. It remains to be seen just how much the industry generally will benefit from what is conceded by all to have been the mistakes of the past two years.

Gasolines and Naphtha

The situation in regard to the U. S. Motor grades of gasoline has been outlined. Prices on the higher gravity gasolines and naphthas are the same as last week. The demand for the higher gravity gasolines does not appear to be heavy and is confined so far as Oklahoma is concerned to the domestic market. In several instances buyers are known to have purchased 60-62 and the 64-66 grades from North Texas plants for shipment to the Middle West points, although freight rates are lower from Oklahoma. The buyers, despite the freight handicap, were able to secure ⅛ cent to ¼-cent better price from the North Texas concerns.

Cosden & Co. have not changed from their price scale of 7 cents for 58-60, 437 gas line. The fact that this concern has refused to lower its prices continues to be one of the most favorable developments in the gasoline market. It is understood that although the company's open market business is small, its contract movement is large enough so that it is constantly lowering its storage which is now lower than at any time during the past three years.

Fuel and Gas Oils

The Bureau of Mines report for August carried in full elsewhere in this issue reveals an interesting situation in regard to the fuel and gas oil market. Fuel and gas oil stocks on September 1 of this year totaled 1,658,670,950 gallons or 194,488,828 gallons more than the 1,462,488,828-gallon figure for September 1 total of 1923. This increase loses a great part of its market significance when it is considered with the fact that all of this increase was in California. Fuel and gas oil stocks on September 1, 1923, totaled 489,170,434 gallons in California and 786,787,819 gallons on September 1 of this year an increase of 297,617,386 gallons for the year. Subtracting from this gain, the 194,488,828 gallon increase for the entire United States and the 103,128,558-gallon remaining represents the decline in gas and fuel oil stocks east of the West Coast during the past year.

Ever since the large increase in California crude production started in 1922, fuel and gas oil stocks have been increasing along the West Coast. This increase has been especially noticeable during the past year and throughout the year has usually accounted for any increase in total stocks for the entire United States. Due to this development many market observers have overlooked the fact that the stocks available outside of the West Coast based on days supply are actually considerably lower than they were a year ago. The following table will serve to summarize this situation:

Days Supply—Fuel and Gas Oil

	Sept. 1 '24	Sept. 1, '23
United States.....	53 days	47 days
West Coast	61 days	49 days
East of West Coast	35 days	44 days

Note—Days supply based on August rate of consumption for each year.

Fear California Decline

This table shows that while on September 1 of this year the fuel and gas oil stocks based on total gallons and days supply was greater than on September 1 of last year for the United States as a whole and the West Coast, it was less for the territory east of and including the Rocky Mountains. On September 1 of last year the West Coast only had 49 days' supply of gas and fuel oil on hand but this had increased to 61 days on September 1 of this year. In contrast for the remainder of the United States the days supply during the year decreased from 44 to 35 days.

Those in touch with the California or West Coast market state that refiners and consumers in that area have been willing to accumulate the heavy stocks because they have feared a decline in California crude production. The market, despite the month to month accumulation, remained firm throughout the year and at this time there is no definite indication of price weakness. The consumption of fuel oil has greatly increased on the West Coast and those who have been storing the fuel oil feel certain that later developments will justify their action. As a further explanation of this situation it should be kept in mind that coal does not enter as a competitive product in the extreme West, far distant from the mines, as it does in the East.

Eastern Position Strong

Unless the West Coast refiners should decide to dump part of their gas and fuel oil accumulation on the Eastern market, a development which does not appear probable at this time, it is apparent that the Eastern market entered the fall and winter month period on September 1 in a strong statistical position. This, as many market observers have pointed out, should be kept in mind by the refiners in gauging future market developments including the renewal of long-time contracts.

Prices on fuel oil in Oklahoma are the same as last week. Refiners are having no difficulty in moving their 24-26

(Continued on Page 123)

REFINED MARKET BAROMETER

Developments in the refinery gasoline market during the past week were irregular with no changes of a general nature in other products. Gasoline prices in Pennsylvania and other points in the East have shown a tendency to reflect further the reduction in tank wagon prices, which became effective October 1. Prices on export gasoline movement from the West Coast have also been lowered again. In contrast to this price weakness gasoline demand improved in the Middle West and prices on the more common motor grades are higher in the Mid-Continent as a result. Natural gasolines are generally firm except for the compression grades in the Mid-Continent. The only apparent weakness in kerosenes and distillates was confined to Pennsylvania and Atlantic Seaboard, where some grades have been reduced in price. Fuel and gas oil prices are firm. There were no general changes in lubricating oil prices although the neutral market is reported weak from most areas. Wax prices are unchanged.

Mid-Continent—Gasoline prices either firm or advancing. The U. S. Motor 58-60 grade has been advanced ¼ cent by most refiners. Only scattered price changes in the higher gravities and naphthas. Kerosenes and distillates offered more freely in North Texas with only minor changes in price. Fuel oil prices lower in North Texas but firm in other areas. Gas oil unchanged. Absorption grades of natural gasolines firm with compression grades ¼ to ½ cent lower.

Atlantic Seaboard—Trend of gasoline market downward with further reductions in tank wagon prices possible. Kerosenes soft. Lubricating oil firm with increased industrial demand offsetting decline in motor demand. No changes in fuel and gas oils. Export movement of gasoline less and lower prices expected. Receipts of crude and refined products larger.

Pennsylvania—Gasoline prices lower on several grades. Kerosene soft. Fuel oil strong and prices firm. Lubricating oils and wax weaker with prices unchanged.

California—Export prices on gasolines reduced an additional ¼ cent with domestic market unsettled. Absorption grades of natural gasolines strong. Fuel oil more active. No changes in other products.

Chicago—Favorable weather responsible for improved demand and higher prices for gasolines. No changes in other products.

Gulf Coast—Lubricating oil market strong with price advances in a few grades. Gas oil prices higher. Fuel oil steady.

Registration Plan Enormous Success

More Than 16,000 Oil Men Deposited Coupons at 100 Booths at Exposition. List of Winners is Announced

More than 16,000 oil men walked at least 40,000 miles and deposited more than 1,600,000 coupons in boxes in booths of exhibitors at the International Petroleum Exposition in Tulsa during the 10 days of the big show in carrying out the registration plan inaugurated and conducted by The Oil and Gas Journal.

The registration plan, easily the leading interesting feature of the Exposition, was successful in every phase. It not only resulted in every exhibitor participating in the plan being assured of at least 16,000 persons visiting his booth, but the name of the exhibitor was impressed upon the minds of these persons in such a way as to be long remembered. The manner in which the oil men entered into the spirit of the plan was one of its most pleasing features. Many were unable to deposit all the tickets on their first visit to the exposition and went back to the grounds in order that every booth with the famous "yellow box" might be visited.

Posting names of registration plan winners.

The badge given each oil man who registered with his name and the name of the company with which he was connected typewritten at the top was one of the most popular services at the Exposition. They obviated the necessity of asking the names of acquaintances who had not been seen for a long time and whose names had slipped the memory. They identified the wearers immediately and were worn at the Exposition grounds and everywhere oil men were congregated and visitors to the Exposition met.

The drawings of the prizes offered by the different exhibitors taking part in the registration plan created exceptional interest. Several of the exhibitors awarded prizes daily during the Exposition but a majority gave one grand prize, the winning numbers being drawn from the boxes on the closing day of the Exposition.

Every card filled in by the men at the booth of The Oil and Gas Journal had been tabulated and arranged by a corps of card index experts. Many of the exhibitors held the drawings for the prizes at their own booths, having someone reach into the box and draw a ticket. Others brought the boxes to the booth of The Oil and Gas Journal, where several little girls were kept busy reaching into the boxes and drawing winning numbers. As the tickets were drawn from the boxes, they were turned over to those in charge of the card index file and the cards corresponding with the numbers on the tickets procured from which the names and addresses of the winners were taken and posted on an immense blackboard placed on one side of The Oil and Gas Journal booth.

Prize winners, as announced below, should send immediately to The Oil and Gas Journal the covers of their coupon books which show the number, signing their names and addresses on the backs of these covers. Upon receipt of this means of identification, The Oil and Gas Journal will at once notify the exhibitors offering the prizes of the names and addresses of the winners and these exhibitors will send the prizes direct to the winners.

In some manner, card No. 01125, representing the winner of the prize offered by The Oil and Gas Journal, has been lost. Whether it was blown away during the rush at the booth at the Exposition or mislaid in some way when the cards were tabulated is not known. The person holding that number should send in the cover of his coupon book to The Oil and Gas Journal within two weeks from October 16. Unless the winner identifies himself to this publication within the two weeks mentioned, another number will be drawn and the prize awarded to the holder of that number.

Following is a list of the winning numbers, the name of the firm offering the prize and the names and addresses of persons holding those numbers, according to the records on file with The Oil and Gas Journal:

05939 Smith Separator Co..
N. C. Mortimer, pumper, Phillips Petroleum Co., Bartlesville, Okla.

03988 Bessemer Gas Engine Co.
W. B. Craig, salesman, B. P. Lientz & Co., 3409 East Eighteenth Street, Kansas City, Mo.

11547 Leader Iron Works.
B. H. Mathews, warehouse man, National Supply Co., East Tulsa, Okla.

07445 Mid Continent Map Co.
Glen O. Everland. vice president Roland Oil Co., Bristow, Okla.

04241 C. & G. Cooper Co.
F. B. Bimel, Standard Oil Co. of New York, 26 Broadway, New York.

12008 A. Leschen Sons Co.
Ralph Dawson, meter reader, Creek County Gas Co., Quay, Okla.

04687 Guiberson Corp.
E. F. Nolan, assistant purchasing agent, Carter Oil Co., Tulsa, Okla.

06125 Maloney Tank & Mfg. Co.
C. R. Wright, engineer, Empire Gas & Fuel Co., Bartlesville, Okla.

04546 A. O. Smith Corp.
Claude Line, foreman warehouse, 1629 East Second Street, Tulsa, Okla.

00424 Dunn Manufacturing Co.
Ben Jones, drilling contractor, Gypsy Oil Co., Alexandria, La.

03034 Dearborn Chemical Co.
L. C. Snider, geologist, Empire Refining Co., Bartlesville, Okla.

02302 Fisher Governor Co.
R. D. Rogers, Tidal Oil Co., Tulsa, Okla.

01576 The Fisher Governor Co.
C. L. Brown, superintendent, Sinclair Oil Co., Drumright, Okla.

12808 The Fisher Governor Co.
T. W. Hollum, steam department, Cosden & Co., West Tulsa, Okla.

11249 Westcott & Greis.
E. M. Coffey, general superintendent, Barnsdall, Refining Co., Barnsdall, Okla.

08701 Walter O'Bannon Co.
O. Key Wilson, mechanic, Shaffer Oil Co., Drumright, Okla.

08868 Crane Co.
C. E. Balzer, warehouse man, the Carter Oil Co., 535 South Madison Street, Tulsa, Okla.

01125 The Oil and Gas Journal.

10282 International Derrick & Equipment Co.
Charles E. Stout, Jr., tool dresser, Gessell Drilling Co., Box 645, Cromwell, Okla.

04172 Acme Fishing Tool Co.
P. H. Elder, station man, Oklahoma Natural Gas Co., Box 34, West Tulsa, Okla.

03709 Toledo Pipe Threading Machine Co.
Joseph Myerscough, producer, El Dorado, Ark.

05363 Eastern Torepdo.
C. W. Davy, production department, Magnolia Petroleum Co., Shawnee, Okla.

01709 Metric Metal Works.
H. H. Flemming, engineer, Standard Oil Co. of New Jersey.

04044 Hinderliter Tool Co.
E. H. Leathers, assistant superintendent, Utah Oil Corp., 313 Petroleum Building, Okmulgee, Okla.

04773 Oklahoma Steel Casting Co.
R. R. Conwell, general superintendent, Pierce Petroleum Co., 1611 East Fourteenth Street, Tulsa, Okla.

00948 Morrison Brothers.
William Barney, superintendent, W. C. Norris, Tulsa, Okla.

02077 Pittsburgh Reinforced Brazing Co.
W. W. Taylor, field manager, D. Wertzberger Co.

03418 Power Manufacturing Co.
Thomas M. Cargill, field superintendent, Avery Oil & Gas Co., Dewey, Okla.

02492 Borden & Co.
V. B. Scunitza, Azneft Oil Co., Baku, Russia.

06152 International Supply Co.
Lynn Boyd. Ward Merrick et al., Ardmore, Okla.

08854 Gaso Pump & Burner Mfg. Co.
G. W. Greenlee, Cosden Oil & Gas Co., Box 248, Cushing, Okla.

01445 Buckeye Traction Ditcher Co.
L. A. Tillgrove, Frick-Reid Supply Co., Tulsa, Okla.

(Continued on Page 118)

The 1,600,000 coupons deposited in booths at the exposition.

Helium Future Field for Gas Industry

Use of Dirigibles in War and Commerce Will Necessitate the Procuring of Large Quantities of Non-inflammable Gas

By Charles E. Kern

WASHINGTON, D. C., Oct. 13.—The natural gas industry should soon realize the existence of a by-product, helium gas, that may prove as valuable as gasoline has proved of value to the petroleum industry. There has been comparatively little discussion of this by-product, which is found in natural gas of Texas, Oklahoma, Kansas and elsewhere in the United States in paying quantities.

A recent announcement in the public press was made that the new dirigible ZR-3, shortly to arrive in this country from Germany, cannot be inflated with helium gas for several months after its arrival because there is not a sufficient supply on hand. The big Zeppelin will cross the ocean inflated with hydrogen gas, but there is no intention of operating it here permanently with hydrogen which is highly explosive and inflammable. The Germans were obliged to use hydrogen because they could not obtain helium which exists in appreciable quantities only in the natural gas of the United States.

Up to this time Texas has been the chief source of this product. It may appear extravagant to say that helium now promises to be a byproduct of natural gas of as great importance as gasoline has been to the oil industry, but it is well settled in the minds of a large body of scientists that transportation by dirigible balloon is sure to play a leading part in American life as well as being an invaluable adjunct to military and naval forces in time of war. Maximum safety requires the use of helium gas in such ships and there is no intention on the part of those interested in this new development in the United States to use anything else to inflate these monsters of the air.

Big Field for Dirigibles

Those who are most familiar with the various questions relating to aeronautics and who are enthusiastic in respect to the future possibilities of that development, hesitate to give public expression to their views as to the possibility of this form of transportation for both passengers and bulk cargoes requiring rapid transfer over long stretches of this country and of the world for fear of being considered visionaries. Many of them believe, however, that the dirigibles will play a large part in the navigation of the air because of its ability to transport many tons of freight and to make passenger traffic not only safe but highly comfortable and even luxurious.

In some commercial circles, discussions are now taking place looking to the future establishment of lines of travel by this means. Many people now believe that highly perishable products will eventually find transportation from one part of the country to another by dirigible. The airplane is not so well adapted for heavy cargoes nor is it regarded as involving the same safety as may be expected from the dirigible airship. Helium gas is the indisputable necessity in the carrying out of this idea. Compared with hydrogen, with both bases 100 per cent pure, it is known that helium has 92 per cent of the lifting power of hydrogen, and as it is as noninflammable as asbestos, for example, all danger attending the highly inflammable hydrogen will be avoided. The performances of the Shenandoah have done much to give confidence as to the future of these monsters of the air.

Considered by Congress

Congress has had this entire subject under discussion since 1922, and during the present year before adjournment, there was an extensive hearing before the committee on military affairs of the House of Representatives. A bill was passed in 1920 which, among other things, authorized the Secretary of the Interior in all public leases of oil lands to reserve the right to extract the helium. A measure has been favorably reported out of the House Committee on Military Affairs authorizing the secretary to lease or purchase gas lands, or the gas or oil rights in lands for the purpose of conserving and producing helium. It also authorizes exploration for and the drilling of gas wells for the purpose of securing helium. It provides that no helium gas shall be exported from the United States or its possessions until after application to the Secretary of the Interior and permission for such exports has been secured from the President, acting on the advice of the Secretaries of War and Navy. The bill provides for the conservation of helium gas to meet the future requirements of the War and Navy Departments.

The initial incentive for congressional action has been the war needs for this gas. Before the World War, the Germans had developed a type of dirigible called the Zeppelin, the weakness of which was the fact that if the envelope containing hydrogen gas should be penetrated by an explosive bullet, the high ship would be brought down a mass of flames. That was the one weak point in this method of attack. But even with that weakness much damage was done over London and munition centers of England. These ships of the air were also used by the Germans for scouting purposes, and the German fleet was thus well informed of the near approach of British war vessels so that they might accept battle or retire as they saw fit.

A Romance of Science

All this led early in 1915 to information coming to the Bureau of Mines that the British were interested in sources of helium for use in dirigibles. When the United States entered the war in 1917, the procurement of helium was presented to the Army and Navy air services as a war project. Allotments were at once made from the Army and Navy appropriations to carry this work forward.

The story of helium is one of the romance of science. It is one of the best examples of a discovery in pure science that has wide commercial application. In 1868 an eclipse of the sun was visible in India, and a spectre scope for the first time was turned on the solar chromosphere—that part of the atmosphere of the sun, about 10,000 miles deep, which merges into the corona. A bright yellow line was observed and was thought at first to be sodium. The scientist, Janssen, observed a distinction from the line of sodium and suggested a new designation which later took the name of helium from the Greek word helios, the sun. It was supposed that this element did not exist on the earth, but it happened later that Dr. W. F. Hillebrand, of the United State Geological Survey, obtained a gas from certain minerals, which gas he decided was nitrogen. Sir Wililam Ramsay obtained a part of this gas from Hillebrand for experimentation, and identified one of its elements as helium.

H. S. MULLIKEN
Assistant director Bureau of Mines, specialist on helium.

Under the pressure of war necessity, three experimental plants for the extraction of helium were constructed in Texas under the direction of the Bureau of Mines, two of them being at Fort Worth which received its supply from the Petrolia, Texas, gas field. Analysis showed that this gas contained 95 per cent helium. Another plant was later constructed at Petrolia, near the gas wells. All three plants produced helium. In October, 1918, a large plant was begun at Fort Worth and completed in December, 1920. This plant now operating under charge of Navy officials is the present production unit of the Government.

Claims Helium Gas Wasted

Representative Lanham of Texas, when this subject was being investigated, stated that it was estimated that 500,000,000 feet of helium is being wasted annually through the commercial use of natural gas containing helium. Of course that was a mere guess, but the facts may not be far from Mr. Lanham's statement. Just what the War and Navy Departments know about helium is not available to the public as yet, because the interests of those departments center about this product for war purposes. However, the Bureau of Mines has had the subject under investigation and has presented it to Congress from the point of view of both national defense and industry. The Interior Department has been interested in preserving the helium gas and safeguarding it from further waste.

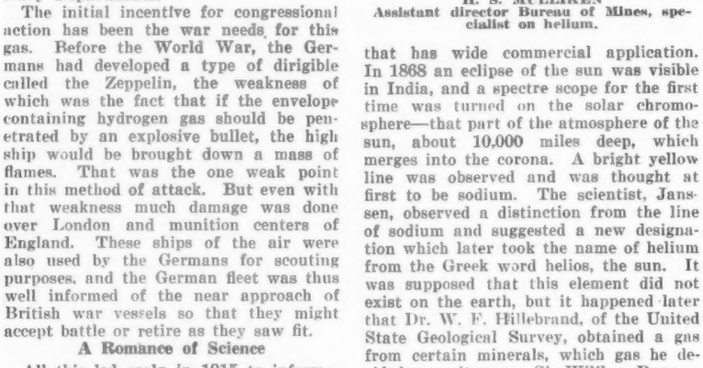
Through the Land Office, helium reserves have been a subject of care, but in the letting of leases it has been difficult to enforce the spirit of the law which was to have extracted all the helium from leases in which it had been reserved. The trouble has been that there was no way in which the helium could be taken from the gas although the Government reserved the right to do that. More legislation will be needed to make that right a practical one.

As the case now stands it is estimated that a daily output of 10,000,000 feet of natural gas, of the kind available at Petrolia, is required to inflate one dirigible ballon a month of the type shortly to arrive from Germany. Suppose, for instance, that the natural gas contains 1.2 per cent helium, 80 per cent could be extracted and preserved. Out of the 10,000,000 feet of natural gas treated daily there could be recovered 100,000 feet of helium gas. If this much of the natural gas could be so treated, which is entirely possible in a single big plant able to draw upon any field of that capacity, there would be obtained 3,000,000 feet of helium per month which is the amount required to fill a dirigible of the type ZR-3, which holds about 2,500,000 feet of gas, allowing approximately 25 per cent for various losses in manipulation.

Question of Storage

It is the belief of H. S. Mulliken, special assistant, Department of the Interior, specializing in matters, that it would be wise to produce helium for the present no faster than the authorized programs of the Army and Navy necessitate, letting Mother Earth be the great storage reservoir for future needs. Mr. Mulliken has been consulted by Congressional committees charged with the investigation of these subjects and he has done much to convince them of the practicability of the plans outlined. These matters will be taken up by Congress again during the coming session, and it is believed that the great importance attached to the development of the helium industry will be sufficient to insure prompt and favorable action on legislation desired.

The storage of helium is one of the most difficult problems facing Congress. The bill now pending provides for the acquisition of complete geologic structures known to contain commercially sufficient amounts of helium, so that this



—P. & A. Photo

Carbon dioxide tanks of Government's helium plant.

valuable helium gas may be retained in the ground until it becomes available for some future need. This appears to be the only practical first step in preserving this gas, and the only means of preventing its dissipation by being allowed to go to waste in the consumption of natural gas for ordinary commercial purposes. Helium being noninflammable, is really a detriment to natural gas in the use to which it is put. Its extraction would result in the improvement of the natural gas for these commercial purposes.

—P. & A. Photo

Government's helium plant near Fort Worth, Texas.

Leaving the helium in the natural gas in the ground is the only way to avoid the difficulty involved in constructing retainers in which to store it. Many projects have been suggested for storing this gas but to undertake that task without compression of the gas is regarded as impracticable because of the enormous reservoirs that would be needed. Plans might readily be perfected for the production and inflation of one such dirigible per month to be used for the carriage of the mails.

Has Indefinite Life

Helium gas, once produced, has an indefinite life with only such loss as might be experienced by leakage and diffusion through the envelope. After helium gas has been used to inflate a balloon there is some leakage and some contamination by the introduction of air into the container. A helium repurification plant is now located at Lakehurst, N. J. This plant can be used for refining helium after it has been used in the dirigible and has become contaminated with air by interchange through the fabric. When the grade of the gas is reduced to 85 per cent, its lifting power, which is normally 92 per cent of hydrogen when both gases are 100 per cent pure, is too low for practical use and the gas may be refined at nominal cost and after such refining it is again ready for use.

All of these research operations as to helium, its cheap recovery and characteristics, have been carried on by means of funds allocated to the United States Bureau of Mines for that purpose, by the Army and Navy. These funds have been used to experiment on all phases of the problem of helium. The question, however, extends far beyond war time needs. It is commercial and this commercial need eventually will far exceed any other use for this helium gas. When the time comes, as it will in the near future, when commercial aeronautics can afford to use helium then commercial production will begin. Just what is the value of helium, commercial, no one is prepared to say. There is no present market value and the price can only be surmised on a cost-plus system. It has been stated that commercial companies, such as might provide dirigible transportation for passengers from New York to Chicago, San Francisco, Europe or South America, could afford to put helium in their airships when they can obtain it at a price around $50 per 1,000 cubic feet, which is 5 cents a foot. The Linde Co. of New York, reputed to be connected with the carbide interests, could probably design and construct complete plants for the extraction of helium for commercial companies whenever they might be called on.

Commercial Development

All of this suggests a subject for serious thought for natural gas companies. Once the use of helium is developed for commercial purposes, only the imagination can form a conception of the vastness of the enterprise that would be launched. Practically helium is indispensible for dirigible purposes. Science knows no other gas that can be safely used to take its place. This is a day of rapid development of new inventions, and the feverish energy of business people as well as the restlessness of the pleasure seeker may be depended upon to rapidly bring this form of transportation into popularity. Expanding use will create a market for helium which of necessity is limited in quantity. There is no reason why the commercial value of helium should not be very great, and with the constantly improving methods of extraction, cost of production should correspondingly decrease. Every gas company in Texas, Oklahoma, Kansas and elsewhere will be wise to direct its attention toward these problems, because the production of helium at convenient points along their pipe lines will permit an added profit while the quality of the natural gas for all present commercial purposes will be improved thereby.

—P. & A. Photo

Pumping station and spillway of Government's helium plant.

It is very sure that this subject will have prominent attention in Congress at the next session, the action of Congress in providing methods for preserving the helium in the ground, and for extracting and storing it, will merely be a forerunner to commercial projects, the activity of which will create this new industry for the sale of helium by the natural gas companies.

Helium has been identified in commercial quantities in the natural gas of Texas, Oklahoma and Kansas and other States and it is quite possible that its presence may be discovered in still newer fields, so that it will serve the interest of every natural gas company to ascertain as soon as possible whether its products contains helium in sufficient quantities to make its extraction practicable.

Extend Air Mail Service

The fact that there is now widespread demand for an extension of the air mail service is not generally known. Boards of trade, chambers of commerce and other commercial bodies are beseiging the Post-office Department for the privilege of having this means for quick transportati n. The cities that now have direct air mail service have a distinct advantage over their competitors that are without such accommodation. At this time the air mail service is limited by law to one route between New York and San Francisco. Every day the air mail leaves New York at 10 a. m. and arrives at San Francisco at 5 p. m. on the following day. Every day the air mail leaves San Francisco at 6:30 a. m. and arrives at New York at 5:05 p. m. on the following day. There are 12 or 13 stops on the way but including all of these delays the trips are made in 34 or 35 hours compared with over 5 days for the service by rail. The route is divided into three zones, from New York to Chicago, from Chicago to Cheyenne and from Cheyenne to San Francisco, the postal rate being 8 cents per ounce of first class mail for each zone or 24 cents per ounce from New York to San Francisco.

There are employed 42 pilots and there are from 45 to 50 air ships in serviceable condition. The service costs the Government $100,000 a month and the revenue for July and August was about $50,00 for each month. The airplane cannot conveniently handle more than 500 pounds of mail at one time. The through mail from New York to San Francisco now averages from 150 to 175 pounds daily. It is readily seen that there is a distinct limitation of the amount of mail that can be carried by airplane compared with a dirigible of the Shenandoah type which can transport many tons, and which will make possible a vast increase in the carrying capacity with the attendant possibility of decreased postal rate.

Used by Motion Picture Men

The moving picture companies find the air mail of great service in transporting their films between exhibition points and are clamoring for extensions of the service. A saving of time in the transfer of these pictures from one city to another means an increase in the number of times a single picture can be exhibited in a given time. Banks find the service a safeguard against delays in the transfer of checks and in the settling of balances. The Northwest and the Southwest are particularly urgent in their demand for this service. There are many applications from Texas and Oklahoma, while Los Angeles, San Diego and Seattle with their keen sense of competition with San Francisco are demanding to be placed on an equality with that city.

Not many people understand the unique position the United States occupies as the sole possessor of helium gas. Every other Nation of the earth is feverishly seeking a source of this supply but none is known to exist in appreciable quantities outside of our boundaries. Japan is stationing captive balloons on her active volcanoes and in that way is obtaining volcanic gases which they will test to determine whether they constitute a source of supply of helium gas. This world wide activity on the part of the dominant powers is caused by a realization that helium gas is of paramount importance as an element of national defense.

SILENCE MAY BE COSTLY SAYS HARRY H. SMITH

In an address before the American Oil Men's Association at its meeting during the Exposition in Tulsa Harry H. Smith, general counsel and secretary of the Mid-Continent Oil & Gas Association, said:

"Since law is to a large degree but public opinion formulated and armed, how important it is that industry lay its case before public opinion, thus attacking the matter at the root instead of continually resising this or that lawsuit, investigation or law which have had their origin in a misinformed public opinion.

"I do not overlook the fact that there have been maladjustments within our industry—mostly local and temporary and that there is room for improvement in several respects. But that improvement will come quicker under conditions of harmony within our own industry, with popular sympathy rather than distrust, and, above all, with a government disposed to be cooperative rather than repressive. To the accomplishment of these changes the dissemination of petroleum facts in a cooperative effort and comprehensive program by the industry seems essential. If we do not do it there is no way to predict how costly to the industry and to the public the experiments that may be tried may be. Public opinion is the key to the situation."

Dirigible "Shenandoah" coming from hangar at Lakewood, N. J.

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

CHICAGO DIST. (Based on Group 3)—	Oct. 14		Oct. 7		Sept. 30	
50-52 450 end point (Naphtha)	.06¼	.06½	.06¼	.06½	.06¼	.06½
56-58 450 end point	.06½	.06¾	.06¼	.06½	.06¼	.06½
58-60 437 end point (U. S. Motor)	.06¾	.07	.06½	.06¾	.06½	.06¾
60-62 400 end point	.08	.08¼	.08¼	.08½	.08½	.08¾
64-66 375 end point	.08¾	.09	.09	.09¼	.09	.09¼
68-70 360 end point	.10	.10¼	.10	.10¼	.10	.10¼
OKLAHOMA (Group 3)—						
50-52 450 end point (Naphtha)	.06¼	.06½	.06¼	.06½	.06¼	.06½
56-58 450 end point	.06½	.06¾	.06¼	.06½	.06¼	.06½
58-60 437 end point (U. S. Motor)	.06¾	.07	.06½	.06¾	.06½	.06¾
60-62 400 end point	.08	.08¼	.08	.08¼	.08	.08½
64-66 375 end point	.09	.09¼	.09	.09¼	.09	.09¼
68-70 350 end point	.10	.10¼	.10	.10¼	.10	.10¼
KANSAS—						
58-60 437 end point (U. S. Motor)	.06¾	.07¼	.06½	.07	.06½	.07
NORTH TEXAS—						
48-52 450 end point (Naphtha)	.06¼		.06	.06¼	.06¼	.06½
50-52 440 end point (Naphtha)	.06¼	.06½	.06¼	.06½	.06¼	.06½
56-58 450 end point	.06¼	.06¾	.06⅜	.06¼	.06¼	.06½
58-60 437 end point (U. S. Motor)	.06⅝	.06¾	.06⅜	.06⅝	.06¼	.06¾
60-62 400 end point	.07¾	.08	.08		.08	.08¼
64-66 390 end point	.08½	.08¾	.08½	.08¾	.08½	.08¾
64-66 375 end point	.08¾	.09	.08¾	.09	.08½	.09
68-70 360 end point	.09¾	.10	.09¾	.10	.10	.10¼
NORTH LOUISIANA—						
56-58 450 end point	.06¾	.07	.06½	.06¾	.06¾	.07
58-60 437 end point (U. S. Motor)	.07	.07¼	.06¾	.07	.06¾	.07
60-62 400 end point	.08½	.08¾	.08½	.08¾	.08½	.08¾
64-66 390 end point	.09¼		.09	.09¼	.09	.09¼
64-66 375 end point	.09¼	.09½	.09¼	.09½	.09¼	.09½
ARKANSAS—						
58-60 450 end point	.06¾	.07	.06¾	.07	.06¾	.07
58-60 437 end point (U. S. Motor)	.07	.07¼	.07	.07¼	.07	.07¼
64-66 375 end point	.09¼	.09½	.09¼	.09½	.09¼	.09½
ROCKY MOUNTAIN STATES—						
*58-60 437 end point (U. S. Motor)	.10	.10¼	.09¾	.10¼	.10	.10¼
PENNSYLVANIA—						
52 Naphtha	.09½		.10¼		.10½	
54 Naphtha	.09½		.10¼		.10½	
56 Gasoline	.10		.10¼		.10½	
58 Gasoline	.10		.10½		.10¾	
60 Gasoline	.10½		.11¼		.11½	
62 Gasoline	.11¼		.11¾		.12½	
64 Gasoline	.11¾		.13¼		.13½	
66 Gasoline	.15¼		.15½		.15½	
68-70 Gasoline	.17		.17¼		.17¼	
CALIFORNIA—						
54-56 437 end point (U. S. Motor) domestic	.11	.12	.11	.12	.11	.12

*Colorado points.

NATURAL GASOLINE

CHICAGO DIST. (Based on Group 3)—	Oct. 14		Oct. 7		Sept. 30	
Grade Double A, 80-87.9 375 e.p., rec. 90%	.08¼	.08½	.08¼	.08½	.08½	.08¾
Grade A, 72-79.9, 375 end point, rec. 90%	.08¼	.08½	.08¼	.08½	.08½	.08¾
Grade Double B, 84-92, 375 e.p., rec. 85%	.08	.08¼	.08		.08½	.08¾
Grade B, 76 83.9, 375 end point, rec. 85%	.08	.08¼	.08		.08½	.08¾
Grade C. 80-90. 375 end point, rec. 78%	.07¾	.08	.07¾	.08	.08¼	.08½
OKLAHOMA (Group 3)—						
Grade Double A, 80-87.9, 375 e.p., rec. 90%	.08	.08¼	.08	.08¼	.08½	.08¾
Grade A, 72-79 9, 375 end point, rec. 90%	.08	.08¼	.08	.08¼	.08½	.08¾
Grade Double B, 84-92, 375 e.p., rec. 85%	.07¾	.08	.07¾	.08	.08½	
Grade B, 76-83.9, 375 end point, rec. 85%	.07¾	.08	.07¾	.08	.08½	
Grade C, 80-90, 375 end point, rec. 78%	.07¼	.07½	.07½	.07¾	.08¼	.08½
NORTH TEXAS—						
Grade Double A, 80-87.9, 375 e.p., rec. 90%	.08		.08	.08¼	.08½	.08¾
Grade A, 72-79 9, 375 end point, rec. 90%	.08		.08	.08¼	.08½	.08¾
Grade Double B, 84-92, 375 e.p., rec. 85%	.07½	.07¾	.07¾		.08¼	.08½
Grade B, 76-83.9, 375 end point, rec. 85%	.07½	.07¾	.07¾		.08¼	.08½
Grade C, 80-90 375 end point, rec. 78%	.07	.07½	.07½	.07¾	.08¼	.08½
NORTH LOUISIANA—						
Grade B, 72-78, under 375 e.p., rec. 90%	.08¼	.08½	.08¼	.08½	.08½	.08¾
Grade C, 76 82, 375 end point, rec. 85%	.07¾	.08	.08	.08¼	.08¼	.08½
CALIFORNIA—						
68-80 absorption 360-390 end point	.10¼	.11	.10¼	.11	.10	.10½
78-84 compression 350 end point	.13		.13		.13	

MOTOR NATURAL GASOLINE (BLEND)

CHICAGO DIST. (Based on Group 3)—	Oct. 14		Oct. 7		Sept. 30	
58-62 437 end point	.06¾	.07	.07	.07¼	.07¼	.07½
60-62 450 end point	.06¾	.07	.07	.07¼	.07¼	.07½
64-66 450 end point	.06¾	.07	.07	.07¼	.07¼	.07½
OKLAHOMA (Group 3)—						
60-62 450 end point	.06¾	.07	.06½	.06¾	.06½	.07
64-66 437 end point	.07	.07¼	.07	.07¼	.06½	.07
68-70 430-435 end point	.07	.07¼	.07	.07½	.06½	.07
NORTH TEXAS—						
58-62 440 end point	.06½	.07	.06½	.06¾	.06½	.06¾
58-60 450 end point	.06½	.07	.06½	.06¾	.06½	.06¾
PENNSYLVANIA—						
*60-62	.10½		.11		.11	
*64-66	.10½		.11		.11	
*66-68	.10½		.11		.11	
*68-70	.10½		.11		.11	

*At Sistersville, W. Va.

BURNING OIL

CHICAGO DIST. (Based on Group 3)—	Oct. 14		Oct. 7		Sept. 30	
41-43 water white Kerosene	.04¾	.05	.04⅞	.05⅛	.04⅝	.04⅞
42-44 water white Kerosene	.04⅞	.05⅛	.05⅛	.05¼	.04⅞	.05
NORTH LOUISIANA—						
41-43 prime white Kerosene	.05	.05⅛	.05		.05	
42-44 water white Kerosene	.05¼	.05⅜	.05¼	.05⅜	.05⅛	.05¼
KANSAS—						
41-43 water white Kerosene	.05	.05⅛	.05	.05⅛	.05	.05¼
ROCKY MOUNTAIN STATES—						
*40-42 water white Kerosene	.08¼	.08½	.08¼	.08½	.08¼	
NORTH TEXAS—						
41-43 water white Kerosene	.04⅝	.04¾	.04⅝	.04¾	.04⅝	.04⅞
41-43 prime white Kerosene	.04⅜	.04½	.04⅜	.04½	.04⅜	.04⅝
40-42 prime white Kerosene	.04⅜	.04½	.04⅜	.04½	.04⅜	.04⅝
42-44 prime white Kerosene	.04¾	.05	.04¾	.05	.04¾	.05
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04¾	.04⅞	.04⅝	.04⅞	.04⅝	.04⅞
42-44 water white Kerosene	.04⅞	.05⅛	.04⅞	.05⅛	.04⅞	.05⅛
41-43 prime white Kerosene	.04½	.04⅝	.04½	.04⅝	.04½	.04⅝
ARKANSAS—						
41-43 water white Kerosene	.04⅞	.05	.04⅞	.05	.04⅞	.05
42-44 water white Kerosene	.05	.05⅛	.05	.05¼	.05	.05⅛
PENNSYLVANIA—						
43 Kerosene pr me white	.07¼		.07½		.07½	
45 Kerosene water white	.07½		.07½		.07½	
46 Kerosene water white	.08		.07¾		.07¾	
47 Kerosene water white	.08¼		.08		.08	
34 Neutral	.09		.09		.09	
34 Sundebloomed Neutral	.07¾		.07¾		.07¾	
36 Miners' Neutral	.06½		.06½		.06½	
300 Mineral Seal	.07½		.07½		.07½	
CALIFORNIA—						
40-42 water white (high burning test)	.07½	.08	.07½	.08	.07½	.08
Engine distillate, 43-45 445 end point	.08½	.09	.08½	.09	.08½	.09
Engine distillate, 42-44 480 end point	.07½	.07¾	.07½	.07¾	.07½	.07¾

*Colorado points.

FUEL OILS

CHICAGO DIST. (Based on Group 3)—	Oct. 14		Oct. 7		Sept. 30	
24-26 Fuel Oil (sellers' cars, Group 3)	.90	.95	.90	.95	.95	1.00
22-24 (El Dorado)	.90	.95	.90	.95	.95	1.00
18-20 (Smackover)	.92½	.97½	.90	.95	.92½	.97½
32-36 Gas Oil	.02¾	.03	.02¾	.03	.03	.03¼
38-40 Straw distillate	.03¾	.04	.03¾	.04	.03⅝	.03¾
KANSAS—						
24-26 Fuel Oil	1.05	1.10	1.05	1.10	1.00	
32-36 Gas Oil	.03¼	.03¼	.03¼	.03¼	.03⅛	.03⅛
38-40 Distillate	.03⅝	.03¾	.03⅝	.03¾	.03⅝	.03¾
OKLAHOMA (Group 3)—						
22-26 Fuel Oil (sellers' cars)	.87½	.90	.90		.90	.95
24-26 Fuel Oil (buyers' cars)	.87½	.90	.87½	.92½	.90	.95
24-26 Fuel Oil (sellers' cars)	.90	.95	.90	.95	.92½	.95
28-30 Fuel Oil (sellers' cars)	1.00	1.05	1.00	1.05	1.00	1.05
32-36 Gas Oil	.02¾	.03	.02¾	.03	.02¾	.03
38-40 Straw distillate	.03⅝	.03¾	.03⅝	.03¾	.03⅝	.03¾
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	.90	.95	.92½	.97½	.90	.95
26-30 Fuel Oil	1.00	1.05	1.05		1.00	1.05
32-36 Gas Oil	.02¾	.03	.02¾	.03	.02⅝	.03
36-38 Gas Oil	.03¼		.03¼		.03¼	
38-40 Straw distillate	.03⅝	.03¾	.03½	.03⅝	.03½	.03⅝
NORTH LOUISIANA—						
20-22 Fuel Oil	.95	1.00	.95	1.00	.95	
32-36 Gas Oil	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼
36-40 Light Straw distillate	.03⅝	.03¾	.03⅝	.03¾	.03⅝	.03⅞
ARKANSAS—						
38-40 Distillate	.03¾	.03⅞	.03¾	.04	.03¾	
32-36 Gas Oil	.03	.03¼	.03	.03¼	.03¼	.03½
22-26 Refinery Fuel Oil	.95	1.00	.95	1.00	.95	1.00
GULF COAST (South Texas)—						
Gas Oil	.03¾	.04	.03¾	.04	.03¾	.04
Fuel Oil	1.50	1.60	1.50	1.60	1.50	1.60
PENNSYLVANIA—						
30-34 Fuel Oil	.05		.05		.05	
36-40 Fuel Oil	.05¼		.05¼		.05¼	
CALIFORNIA—						
33-36 Distillate	.04	.04½	.04	.04½	.04	.04½
27-33 Distillate	.03¾	.04	.03¾	.04	.03¾	.04
15-20 Fuel Oil (at tide water)	1.40		1.40		1.40	

NEUTRAL OILS

OKLAHOMA (Group 3)—	Oct. 14		Oct. 7		Sept. 30	
70-80 vis., 2½ color, 20-25 cold test	.04	.04½	.04	.04½	.04	.04½
100 vis., 2 color, 20-25 cold test	.05	.05½	.05	.05½	.05	.05½
100 vis., 3 color, 20-25 cold test	.04½	.05	0.4½	.05	.04½	.05
150 vis., 3 color, 20-25 cold test	.08	.09	.08	.09	.08	.09
150 vis., 4 color, 20-25 cold test	.08	.08½	.08	.08½	.08	.08½
180 vis., 4 color, 23-28 cold test	.09	.09½	.09	.09½	.09	.09½
180 vis., 3 color, 23-28 cold test	.09½	.10	.09½	.10	.09¼	.10
200 vis., 3 color, 23-28 cold test	.11½	.12	.11½	.12	.11½	.12
200 vis., 4 color, 23-28 cold test	.11	.11½	.11	.11½	.11	.11½
220 vis., 3 color, 25-30 cold test	.12½	.13	.12½	.13	.12½	.13
220 vis., 4 color, 25-30 cold test	.11¾	.12¼	.11¾	.12¼	.11¾	.12¼
240 vis., 3 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
240 vis., 4 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
280 vis., 3 color, 25-30 cold test	.16½	.17	.16½	.17	.16¼	.17
280 vis., 4 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
Red Neutrals:						
180 vis., 5 color, 23-28 cold test	.08½	.09	.08½	.09	.08½	.09
180 vis., 6 color, 23-28 cold test	.12¼	.12¾	.12¼	.12¾	.12¼	.12¾
200 vis., 5 color, 23-28 cold test	.10½	.11	.10½	.11	.10½	.11
200 vis., 6 color, 23-28 cold test	.13	.13½	.13	.13½	.13	.13½
220 vis., 5 color, 25-30 cold test	.11	.11½	.11	.11½	.11	.11½
220 vis., 6 color, 25-30 cold test	.14¼	.14¾	.14¼	.14¾	.14¼	.14¾
240 vis., 5 color, 25-30 cold test	.13	.13½	.13	.13½	.13	.13½
240 vis., 6 color, 25-30 cold test	.15¼	.15¾	.15¼	.15¾	.15¼	.15¾
280 vis., 5 color, 25-30 cold test	.14¼	.15	.14¼	.15	.14¼	.15

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

180-200 vis., S. R. green, 40-45 cold test	.07	.07½	.07	.07½	.07	.07½
190-210 dark green, 40-45 cold test	.06	.06½	.06	.06½	.06	.06½
170-190 dark green, 40-45 cold test	.05¾	.06	.05¾	.06	.05¾	.06
600, E filtered	.20	.21	.20	.21	.20	.22
590-600 Bright Stock, 150-160 vis.	.28	.29	.28	.29	.28	.29
600-610 Bright Stock, 190-210 vis.	.32	.34	.32	.34	.32	.34
Waxes:						
124-126 White Crude Scale Wax	.05¼	.05½	.05¼	.05½	.05¼	.05½
PENNSYLVANIA—						
150, 3 color	.16½		.16½		.16½	
180, 3 color	.18½		.18½		.18½	
200, 3 color	.20½		.20½		.20½	
220, 3 color	.22½		.22½		.22½	
600, steam refined	.19		.19		.19	
635, steam refined	.23		.23		.23	
650, steam refined	.24½		.24½		.24½	
600, Pennsylvan a flash	.28		.28		.28	
630, Pennsylvania flash	.33		.33		.33	
*550 E filtered	.19¼		.19¼		.19¼	
*600, E filtered	.23½		.23½		.23½	
600, E filtered	.21½		.21½		.21½	
600, D filtered	.28		.28		.28	
550, E filtered	.20		.20		.20	
550, D filtered	.24		.24		.24	
Pennsylvania Bright Stock	.35		.35		.35	
†122-124 White Crude Scale Wax	.05¾		.05¾		.05¾	
†122-124 White Crude Scale Wax	.05⅞		.05⅞		.05⅞	

*At Warren, Pa. †At New York City.

GULF COAST (South Texas)—						
Zero Black	.06	.07	.06	.07	.06	.07
No. 2 color, 100 vis., pale oil	.08	.09	.08	.09	.08	.09
No. 2 color, 150 vis., pale oil	.10	.11	.10	.11	.10	.11
No. 3 color, 200 vis., pale oil	.12	.13	.12	.13	.12	.13
No. 3 color, 300 vis., pale oil	.14½	.15½	.14½	.15½	.14½	.15½
No. 3½ color, 500 vis., pale oil	.16½	.17½	.16½	.17½	.16½	.17½
No. 3¼ color, 750 vis., pale oil	.22	.23	.22	.23	.22	.23
No. 4½ color, 1200 vis., pale oil	.24	.25	.24	.25	.24	.25
No. 4½ color, 2000 vis., pale oil	.29	.30	.29	.30	.29	.30
No. 1½ color, 150 vis., pale filtered	.21	.22	.21	.22	.21	.22
No. 2 color, 200 vis., pale filtered	.22	.23	.22	.23	.22	.23
No. 3 color, 300 vis., pale filtered	.25	.26	.25	.26	.25	.26
No. 3½ color, 500 vis., pale filtered	.30	.31	.30	.31	.30	.31
No. 3½ color, 750 vis., filtered	.40	.41	.40	.41	.40	.41
No. 5 to 6 color, 200 vis., red oil	.10½	.11½	.10	.11	.10	.11
No. 5 to 6 color, 300 vis., red oil	.13	.14	.13	.14	.13	.14
No. 5 to 6 color, 500 vis., red oil	.14½	.15½	.14½	.15½	.14½	.15½
No 5 to 6 color, 750 vis., red oil	.19	.20	.19	.20	.19	.20
CALIFORNIA—						
200 vis., 2½-3 color	.15	.17	.15	.17	.15	.17
300 vis., 2 -4 color	.16	.19	.16	.19	.16	.19
350 vis., 3½-4 color	.17½	.20	.17½	.20	.17½	.20
400 v s., 4 -4½ color	.19	.20	.19	.20	.19	.20
Red Neutrals:						
200 vis., 4½-5 color	.13	.14	.13	.14	.13	.14
300 vis., 5 -6 color	.14	.17	.14	.17	.14	.17
400 vis., 5 -6 color	.16	.18	.16	.18	.16	.18
500 v s., 6 -6½ color	.17	.18	.17	.18	.17	.18
600 vis., 9½ plus	.18	.21	.18	.21	.18	.21

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK DOMESTIC MARKET

Motor Gasoline:	Oct. 14	Oct. 7	Sept. 30
Spot Gasoline, Bayonne	.10½	.10¾	.10¾
V. M. P. Naphtha, in steel barrels	.15	.15	.15
Lubricating Oil (Industrial) at refinery, Bayonne, N. J.:			
Cylinder, extra light filtered, in barrels	.44½	.44½	.44½
Cylinder, light filtered, in barrels	.38	.38½	.38½
Cylinder, Bight Stock	.48½	.48½	.48½
Cylinder, steam refined (600)	.30½	.30½	.30½
Black, in bulk	.12	.12	.12
Bloomless, white, 30-31 gravity, 170 vis.	.44	.44	.44
Bloomless, 885 specific gravity	.16½	.16½	.16½
Red Paraffin:			
170 viscosity	.22	.22	.22
212 viscosity	.23	.23	.23
265 viscosity	.24	.24	.24
295 viscosity	.26	.26	.26
Paraffin, 903 specific gravity	.31	.31	.31
*Fuel Oil:			
Bunker Oil, 14 plus:			
October 4 to October 11, 1924, $1.75 per bbl.			
Diesel Oil, at refinery, barrel	2.00	2.00	2.00
Furnace Oil, tank wagon, gallon	.10	.10	.10
Gas Oil, delivered in New York	.05	.06	.06
Wax, fully refined:			
120-122 a.m.p.	.05⅝	.05⅝	.05⅝
125-127 a.m.p.	.06	.06	.06
130-132 a.m.p.	.06¼	.06¼	.06¼
135-137 a.m.p.	.07¾	.07¾	.07¾

*Lighterage 6.5c a barrel extra.

NEW YORK EXPORT PRICES

	Oct. 14	Oct. 7	Sept. 30
Motor Gasoline, in cases, gallon	.26 14	.26 14	.26 14
Motor Gasoline, U. S. Navy, spec. gallon	.12 25	.12 25	.12 25
Naphtha, 60° F., 70-72 spec. grav.	.13 25	.13 25	.13 25
Naphtha, 60° F., 63-66 spec. grav.	.14 5	.14 5	.14 5
Naphtha, 60° F., 66-68 spec. grav.	.16 0	.16 0	.16 0
Kerosene:			
Standard white, in bulk	.06½	.06½	.06½
Standard white, in barrels, gallon	.13½	.13½	.13½
Standard white, in cases, gallon	.16 9	.16 9	.16 9
Water white, in cases, gallon	.07½	.07½	.07½
Water white, in barrels, gallon	.14½	.14½	.14½
Water white, in cases, gallon	.17 9	.17.9	.17.9

LOS ANGELES EXPORT PRICES

Kerosene:	Oct. 14		Oct. 7		Sept. 30	
Water white	.05	.05½	.05	.05½	.05	.05½
U. S. Motor gasoline, 54-56, 437 end point	.09	.10	.09	.10	.09½	.10½

CRUDE OIL PRICES

October 2.—Joseph Seep Purchasing Agency reduced Corning crudes 15 cents.

October 4.—Magnolia Petroleum Co. adopted the Prairie Oil & Gas Co. prices for Oklahoma, North Texas and Kansas for crude below 33 degrees gravity. No change was made in its schedule above 33 degrees gravity.

October 6.—Standard Oil Co. of Louisiana adopted a two-gravity schedule for Smackover, Ark. crude.

October 8.—Standard Oil Co. of Louisiana reduced El Dorado, Ark. crudes 10 cents.

October 14. — Prairie Oil & Gas Co. announced that it would pay for all crude run to its account since October 1 and pay for oil stored to the account of producers since July 17, 1924, at present posted prices. No storage charge provided offer is accepted by October 31, 1924.

Arkansas and North Louisiana

Caddo, 38° and above	$1.35
35° to 37.9°	1.25
32° to 34.9°	1.15
Below 32°	1.00
Homer, 35° and above	1.10
33° to 34.9°	1.00
31° to 32.9°	.90
Below 31	.75
Haynesville, 33° and above	1.00
Below 33°	.90
El Dorado, 33° and above	1.00
Below 33°	.90
Bull Bayou, 38° and above	1.15
35° to 37.9°	1.00
32° to 34.9°	.85
Cotton Valley	.80
De Soto	1.20
Crichton	1.00
Bellevue	1.10
Smackover, 25° and above	.95
Below 25°	.85
*Stephens, Ark.:	
26° and above	.90
Below 26°	.70

*Posted by Atlantic Oil Producing Co.

Wyoming and Montana

Rock Creek (Wyo.)	$ .95
Salt Creek	.85
Big Muddy	.75
Mule Creek	.60
Grass Creek (light)	1.20
Elk Basin	1.20
Lance Creek	1.15
Osage	1.15
Cat Creek (Mont.)	1.20
Sunburst (Mont.)	.90
Lost Soldier	.78
Greybull and Torchlight	1.15
Hamilton Dome	.80

Lander based on contracts covering entire production of fields.

Oklahoma, Kansas, North and Central Texas

Prairie Oil & Gas Co. and other major purchasing companies, except as noted

Below 30°	$ .75
30° to 32.9°	.90
33° to 35.9°	1.10
36° and above	1.25
Magnolia Petroleum Co.:	
*33° and above	1.25
Corsicana Light	1.25
Corsicana Heavy	.90
Mexia	1.25
Powell	1.25
Thrall	1.00

*Below 33° gravity, same as Prairie.

Humble Oil & Refining Co.

Ranger:	
Below 30°	$ .90
30° to 32.9°	1.10
33° to 35.9°	1.25
36° and above	1.35
Mexia	1.25
Powell	1.25
Currie	1.25
Richland	1.25

*Wichita-Archer Counties and Moran, same as Prairie.

Gulf Coast

Grade "A"	$1.25
Grade "B"	1.05
Luling	.90
Laredo (Magnolia Petroleum Co.)	.75
Rockdale-Minerva (Milam County)	1.25
Calliham (Live Oak-McMullen)	1.53
*High Island	.85

*Posted by Sun Co.

***Somerset**

Under 28° gravity	$ .90
28° to 30.9°	1.00
31° to 32.9°	1.10
33° and above	1.25

*Posted by Grayburg Oil Co.

California

14° to 14.9°	$1.00
20° to 20.9°	1.01
21° to 21.9°	1.02
22° to 22.9°	1.03
23° to 23.9°	1.05
24° to 24.9°	1.07
25° to 25.9°	1.10
26° to 26.9°	1.13
27° to 27.9°	1.16
28° to 28.9°	1.19
29° to 29.9°	1.22
30° to 30.9°	1.25
31° to 31.9°	1.28
32° to 32.9°	1.31
33° to 33.9°	1.34
34° to 34.9°	1.37
35° to 35.9°	1.40
36° to 36.9°	1.46
37° to 37.9°	1.52
38° to 38.9°	1.58
39° to 39.9°	1.64
40° to 40.9°	1.70
41° to 41.9°	1.76
42° and above	1.82

Eastern States

Penna Grade Oil in New York Transit Lines	$2.85
Bradford District Oil in National Transit Lines	2.85
Penna Grade Oil in National Transit Lines	2.75
Penna Grade Oil in Southwest Pa. Pipe Line Lines	2.75
Penna Grade Oil in Eureka Pipe Line Lines	2.75
Penna Grade Oil in Buckeye Pipe Line Lines	2.75
Cabell Grade Oil in Eureka Pipe Line Lines	1.45
Corning Grade Oil in Buckeye Pipe Line Lines	1.50
Somerset Medium Oil in Cumberland Pipe Line Lines	1.55
Somerset Light Oil in Cumberland Pipe Line Lines	1.70
Ragland Grade Oil in Cumberland Pipe Line Lines	.90
Lima	1.58
Wooster	1.40
Illinois	1.37
Indiana	1.38
Princeton	1.37
Plymouth	.75
Waterloo	.75
†Oil Springs, Canada	2.30
†Petrolia, Canada	2.23
*Western Kentucky, 36° and above	1.20
*Western Kentucky, 33° to 35.9°	1.10
*Western Kentuck, 32.9° and below	1.00
Cumberland and Monroe Counties, (Ky.) (Paragon Dev. Co.)	1.70

†Plus Government bounty of 26½c.

*Prices for Warren, Allen, Hancock, and Ohio Counties by Indian Refining Co. Prices for Warren and Simpson Counties by Paragon Development Co. are 10 cents higher.

Mexican Crude

*Tuxpam (f.o.b. Mexican ports)	$1.15
†Panuco (f.o.b. Mexican ports)	.95
Tuxpam (New York)	1.72
Panuco (New York)	1.38

*Plus 32 33c. †Plus 17.64c tax. Prices based on contracts.

Is Gasoline Price Level to Remain Low?

Suggested That Industry Must Turn to Fuel Oil and other Products to Bear the Burden That Motor Fuel Cannot Carry

By L. M. Fanning

For something over 10 years gasoline has been the main product of petroleum, supplanting kerosene which, until the development of the automobile was the most valuable of the joint products obtained from the refining of crude oil. The motivating force behind the oil industry during this period has been to get enough oil out of the ground to supply the tremendously increasing requirements for gasoline, and to increase the yield of gasoline from the available crude. Oil finding methods have been revolutionized in the last decade, and from an ever-present peril that enough gasoline could not be made to meet the demand, the industry has run into recurrent years of over production of crude oil and gasoline.

Taking the industry as a whole as it has developed during the automobile era, it has been built up to derive its returns principally from gasoline. This has necessarily been the case inasmuch as it is to meet the demand for gasoline that increased costs for crude oil, for refining and distribution have been incurred. Gasoline cannot be produced without also producing the other products such as kerosene, fuel oil and lubricating oil, and the allocating of the cost of production is necessarily largely dependent upon the relative conditions of supply and demand affecting the different products. Kerosene demand is limited and fuel oil consumption at present is dependent upon the product's ability to compete with coal. Production and disposition of lubricating oil is relatively restricted. Gasoline, being in greatest demand, has borne a larger share of the crude cost and the expense of refining, although the price realized for finished products other than gasoline materially enters into the price realized for gasoline.

Gasoline to Lower Level?

Experiences of the last few years indicate that gasoline is gradually adjusting itself to a lower price level brought about by a changed economic condition which is the natural outgrowth of the herculean and successful efforts of the industry to multiply the product's quantitavity. It has been pointed out that while gasoline consumption has increased enormously during the past decade and will continue to increase, there have been no gasoline shortage except during the war period.

The most important factors in permanently removing the fear of shortage have been the increase in crude oil production, increase in the percentage yield of gasoline largely due to cracking and recovery of light gasoline from natural gas. In the early days of the automobile, the average commercial yield of gasoline was under 11 per cent. The highest possible gasoline content was about 18 per cent. The recovery of gasoline by United States refineries amounted to 26 per cent in 1919 from which it advanced in 1923 to 30 per cent, and during the first six months of this year the yield has been over 33 per cent.

These percentages are of particular bearing on the future in the fact that due to increased yields through cracking there can be considerable cutting down of crude oil production without endangering the fuel supply for automobiles. The lessening amount of crude required is revealed, for instance, by taking the 1919 rate of recovery, which, had it still been in effect during the first six months of 1924, would have meant that refineries had to run over 400,000,000 bbls. of crude instead of 314,000,000 to have obtained the amount of gasoline which was produced during that period.

Uncertain Price Trend

Current and indicated future condition of crude oil production are bound to affect the gasoline situation and to cause fluctuations in the price of that product, and in view of the uncertainties respecting crude production there is, of course, a substantial element of supposition involved in figuring that the gasoline price level will be lower than former levels.

However, appreciation of the fact that cracking is growing in commercial application and can continue to grow and that it makes available for gasoline derivation probably a much greater quantity of other fractions of the crude than is now utilized, puts the prophet on firmer ground than he would have been with a similar prediction four years ago. At that time—in 1920—anyone who would have predicted that subsequent years would have seen gasoline at successively lower levels would have had to stand his ground against all the available evidence, and still that is what has happened. Late in 1919 and early in 1920 the oil industry as a whole failed to produce enough oil to meet current demand, and during that period Mid-Continent crude advanced from $2.25 to $3.50 a bbl. General business depression and a change in the situation of supply and demand of petroleum late in 1920 and into 1921, sent crude oil down to $1 a bbl., and the crude price recovery has been only sporadic since then.

Decline Since 1920

Gasoline prices averaged in 1920 the highest in the history of the industry. Prices published by the Department of Commerce and based on the price of motor gasoline delivered in drums to garages in New York City, show a monthly average for 1920 of 29.3 cents a gallon. In 1921 the average price was 26.1; in 1922, 25.1, and in 1923, 20.7 cents. If there is no further reduction in gasoline prices before the end of this year and the present level of 14 cents a gallon in New York holds, the indicated average for 1924 is 17.8 cents, or only 1 cent a gallon higher than the pre-war year of 1923. The monthly average for all years since 1913 follow:

	Cents per gal.		Cents per gal.
1913	16.8	1919	24.5
1914	14.4	1920	29.3
1915	13.8	1921	26.1
1916	23.0	1922	25.1
1917	23.8	1923	20.7
1918	24.2	*1924	17.8

*Estimated.

Under Pre-war Figure

Gasoline is now selling nearly 3 cents under the average price for the pre-war year, and lower than at any time since 1915, when the monthly average was 13.8 cents. It is selling 1 cent lower than it did the latter part of last year. A comparison of prices published by the Department of Commerce giving the monthly average for the last three years through June, 1924, and with indicated average price for the balance of this year, follows:

	1924 cents per gal.	1923 cents per gal.	1922 cents per gal.
January	16.6	22.0	28.2
February	20.0	23.1	24.5
March	19.8	24.5	24.6
April	20.0	24.0	24.6
May	20.0	22.0	24.6
June	20.0	21.5	24.6
July	†19.5	21.3	27.1
August	†18.5	20.0	25.9
September	†17.5	19.1	25.9
October	*14.0	18.1	24.5
November	*14.0	17.0	24.9
December	*14.0	15.8	22.8

†Approximate.
*Estimate.

Load on Other Products

Consideration of the lower tendency of gasoline prices taken over a period as extended as four years, suggests that the phase of the industry which brought about an advance in gasoline prices from 13 cents a gallon in the flush production days of Cushing in 1915 to 30 cents in 1920 has definitely passed; that the industry has solved the problem of gasoline supply for some time at least and that it is going through the period of adjustment necessitated by that changed condition.

This does not mean that gasoline prices will be pressed down permanently to the low level now existing. Overproduction has forced gasoline down to an uneconomic level, and present prices are due to unloading in advance of the period of decreased consumption. A declining production of crude oil will result in a considerable strengthening of gasoline prices as the crude price shows advances, but the evidence of the industry's ability to increase production when it is needed is the factor which will tend to keep gasoline on the average at lower levels than it was thought possible three or four years ago.

The industry cannot function if its most important product is selling at a loss, and this is the situation which has existed off and on for the last two years. A thinning out of the proportion of the cost that gasoline can bear, means that other products will have to be relied upon to make up the difference. Some authorities believe that with the gasoline situation solved, with the end of the bogy of a gasoline shortage, the industry is on the threshold of a new era which will go down as the fuel oil era. The present limitations on this market are those prescribed by the ability of fuel oil to compete with coal. However, shipping is definitely committeed to oil, and the great future expansion of the merchant marine of all countries will be marked by demand for oil as against coal for fuel. At the present time the most important development in shipping is the expansion of the use of the Diesel type of propulsion which is dependent upon oil. Another large potential market for fuel oil is in burners for the home. The development of burners which will run on fuel oil will mean a revolution in the importance of that product comparable to what the automobile meant to gasoline.

DEVELOPMENT OF FUEL OIL SALES TO OFFSET LOSSES IN GASOLINE

By N. O. Fanning

NEW YORK, Sept. 23.—The current year in oil has been a banner one from the viewpoint of sales of fuel oil, and the prices obtained for both fuel oil and gas oil have been high enough to afford considerable profit. Bunker fuel oil at New York, for instance, has been selling for $1.75 per barrel during the greater part of the year. Last year it averaged close to $1 per barrel. Taken in conjunction with the campaign to advance the sale of furnace oil and other low grade oils for use in land installations, the situation resolves itself into an effort to offset the losses involved in the cut-throat competition in gasoline marketing.

Consumption Increases

The consumption of both gasoline and gas and fuel oil has increased greatly over 1923. However, the gain in gasoline consumption has been offset by the mad scramble to produce this product, with the result that the market has been consistently weak all year. Gas and fuel oil consumption has increased this year over 1923, but in spite of this fact, consumption has been almost as great as production. During the first eight months stocks of gas and fuel oil show a gain of only 2,110,000 bbls. Stocks of gasoline during the same period increased by 6,286,000 bbls.

The supply of gasoline is considerably larger in relation to consumption than is that of fuel oil. July consumption of gasoline averaged 676,000 bbls. daily including exports, and stocks at the end of the month were 34,918,000 bbls. Consumption of gas and fuel oil during the same month was 898,000 bbls. daily, and stocks at the close were 38,182,000 bbls. For the first time in the history of the oil industry stocks of gasoline on May 31 of 39,222,000 bbls. exceeded stocks of gas and fuel oil, which amounted to 37,039,000 bbls., although the highest rate of gasoline consumption, 676,000 bbls. daily in July, compares with a peak rate of 964,000 bbls. daily for gas and fuel oil consumption, recorded in June, 1924.

The situation as to kerosene and lubricating oil has changed but little this year, although consumption has increased over 1923. These products have had nothing to do with the major economic changes which have come about in the oil business during 1924. This leaves the situation as to gasoline and gas and fuel oil of chief importance.

Field Reversed

The great rush to produce gasoline had its original start in the high prices obtained for the product during 1920 and early in 1921. Gasoline was doubtless profitable to many in that period, especially to those refiners who did not operate on the highest priced crude oil. But the oil business as a whole was dependent upon gasoline because of the relatively small consumption and prices of the other principal products of crude oil.

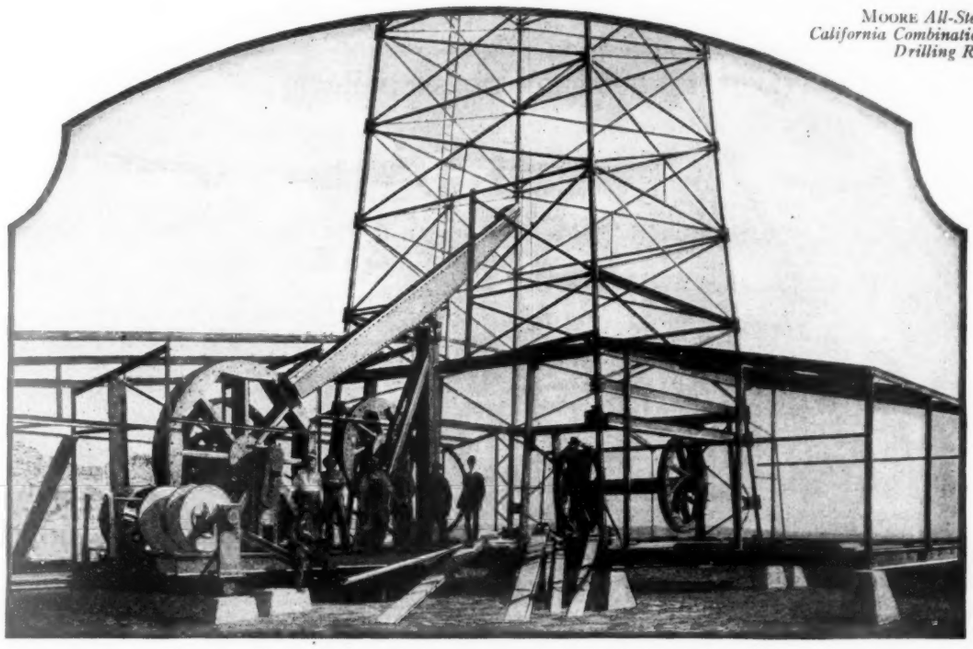
Although gasoline prices subsequently fell to about half their peak level, a greater portion of the oil industry than could be imagined has expected a restoration of the higher prices and has produced accordingly. The development of cracking processes, which had its great stimulas in the period of high prices, has not only served to increase gasoline production beyond expectations, but has restricted proportionately the supply of fuel and gas oil.

Refiners who have the product for sale for which the demand is greatest and the price most advantageous are the ones who are bound to show profits, if any can, under present conditions. At any rate, many factors formerly depending on gasoline for their profit have undoubtedly anticipated the reversal in the position of gasoline and fuel oil. They

(Continued on Page 128)

MOTOR TAXES AND FEES

WASHINGTON, D. C., Oct. 13.—Motorists of the country pay in gasoline taxes and registration fees an average of a quarter of a cent a mile, according to the Bureau of Public Roads of the Department of Agriculture. That is what the fees paid in a year amount to when divided by 6,000, which is believed to be the average motorist's annual mileage.



MOORE *All-Steel California Combination Drilling Rig*

Permanent Assets

A MOORE all-steel rig, or any part thereof, is a permanent asset, suffering only slight depreciation through years of use and repeated moving from one location to another. It appeals strongly to conservative operators who are in the business to stay, depending on the law of averages, rather than a single stroke of luck, to bring them a fair return on their investments over a period of years. To them, the MOORE steel rig is an important element of operating economy and safety.

Right now, the relatively low price of steel derrick foundations is engaging the attention of operators, who find the price of timber for this particular purpose relatively high. Steel frame sills and interior framing place the derrick safely upon foundations which are proof against fire and rot.

Send for MOORE 72-page profusely illustrated catalog, just issued, and study the facts. **Free** for the asking.

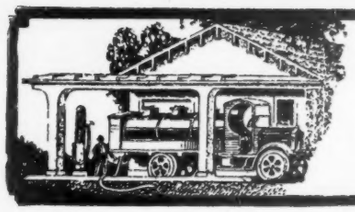
LEE C. MOORE & COMPANY, Inc., Pittsburgh, Pa.

ESTABLISHED 1907

CASPER, WYO. Midwest Building
DALLAS, TEXAS Magnolia Building
TULSA, OKLA. Atlas Life Building
SHREVEPORT, LA. 824 Prospect Avenue
PARKERSBURG, W. VA. Union Trust Building

California Representatives: BUCK & STODDARD
SAN FRANCISCO—485 California Street
LOS ANGELES—3354 E. Slauson Avenue; Box 720 Arcade Station

MOORE TUBULAR STEEL DERRICKS



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns, Oct. 14

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

Main Service Station Price

	Gasoline			Kero.
	Tank wagon	Incldg tax of	Service station	Tank wagon
Chicago District—				
†100 gals. or more	13.0	...	16.0	11.0

Tank wagon prices on April 10 1922; g. up 1½c; May 8, g. up 1c; June 27, both up 1c; July 19, g. down 2c, k. down 1c; Oct. 10, g. down 2c; Oct. 21, g. down 1c; Feb. 5, 1923, g. up 1c; Feb. 20, g. up 1c; Aug. 14, g. down 6.6c; Oct. 4, k. down 1½c; Nov. 10, g. down 1.4c; Dec. 29, g. up 2c; Jan. 12, 1924, g. up 2c, k. up 1c; Feb. 5, g. up 2c, k. 1c; July 18 g. down 1c; July 30, g. and k. down 1c; Sept. 12, g. down 2c.

Decatur, Ill.	13.2	...	15.2	11.5
East St. Louis	12.1	...	14.35	10.6
Joliet	13.4	...	15.4	11.7
Peoria	13.2	...	15.2	11.5
Quincy	13.2	...	15.2	11.3
Davenport, Ia.	13.5	...	15.5	11.9
Des Moines	13.5	...	15.5	11.9
Keokuk	13.5	...	15.5	11.0
Sioux City	13.0	...	15.0	11.5
Duluth, Minn.	14.5	...	16.5	12.4
Minneapolis	14.2	...	16.2	12.6
La Cross, Wis.	14.2	...	16.2	12.4
Milwaukee	13.1	...	15.1	11.3
Madison	13.3	...	15.3	11.5
Detroit, Mich.	13.8	...	15.8	12.2
Grand Rapids	13.7	...	15.7	12.1
Saginaw	13.9	...	15.9	12.3
Evansville, Ind.	15.0	2.0	17.0	11.5
Fort Wayne	15.4	2.0	17.4	11.9
Indianapolis	15.2	2.0	17.2	11.7
South Bend	15.4	2.0	17.4	11.9
Fargo, N. D.	15.9	1.0	17.9	14.6
Huron, S. D.	17.0	2.0	19.0	13 1
Sioux Falls	15.0	2.0	17.0	12.6
*Kansas City, Mo.	13.9	1.0	15.9	10.3
Springfield	13.8	...	15.8	11.2
*St. Louis	12.6	0.5	14.9	11 0
*St. Joseph	13.0	0.5	15.0	10.9
Wichita, Kans.	12.8	...	15.0	9.8
Bartlesville, Okla.	14.4	...	16.9	9.9

*City tax.
†Tank wagon price on less than 100 gallons, 14c.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Incldg tax of	Service station	Tank wagon
Newark, N. J.	13.5	...	....	13.0
Atlantic City	13.5	...	....	13.0
Annapolis, Md.	15.0	2.0	17.0	12.0
Baltimore	15.0	2.0	17.0	11.0
Cumberland	15.0	2.0	17.0	12.5
Washington, D. C.	16.0	2.0	18.0	12.5
Norfolk, Va.	17.5	3.0	19.5	13.5
Petersburg	17.5	3.0	19.5	13.5
Danville	17.5	3.0	19.5	13.5
Richmond	17.5	3.0	19.5	13.5
Roanoke	17.5	3.0	19.5	13.5
Keyser, W. Va.	15.0	2.0	....	12.5
Charleston	16.0	2.0	....	12.5
Parkersburg	16.0	2.0	....	13.5
Wheeling	16.0	2.0	....	13.5
Charlotte, N. C.	15.0	3.0	....	13.5
Hickory	15.0	3.0	....	13.5
Mt. Airy	15.0	3.0	....	13.5
Salisbury	15.0	3.0	....	13.5
Charleston, S. C.	15.5	3.0	....	14.0
Columbia	15.5	3.0	....	14.0

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Incldg tax of	Service station	Tank wagon
Atlanta, Ga.	17.0	3.0	20.0	13.0
Augusta	17.0	3.0	20.0	13.5
Macon	17.0	3.0	20.0	14.5
Savannah	14.0	3.0	17.0	13.0
Birmingham, Ala.	15.0	2.0	18.5	14.5
Mobile	14.0	2.0	17.0	12.0
*Montgomery	16.0	3.0	19.0	15.5
Clarksdale, Miss	15.0	3.0	18.0	12.0
Jackson	15.0	3.0	18.0	10.0
Natchez	14.5	3.0	17.5	11.5
Vicksburg	14.5	3.0	17.5	11.5
Jacksonville, Fla	15.0	3.0	18.0	13.0
Miami	17.0	3.0	20.0	14.5
Pensacola	15.0	3.0	18.0	13.5
Tampa	15.0	3.0	18.0	13.0
Lexington, Ky.	16.0	3.0	19.0	14.0
Covington	15.0	3.0	18.0	14.0
Louisille	15.0	3.0	17.0	12.0

*In addition to State tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and ½ cent on kerosene.

PACIFIC COAST DISTRICT

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Incldg tax of	Service station	Tank wagon
San Francisco	17.0	2.0	20.0	15.5
Los Angeles	16.0	2.0	19.0	15.5
Fresno	17.5	2.0	20.5	17.5
Reno, Nev.	20.5	2.0	23.5	19.0
Portland, Ore.	19.0	3.0	22.0	16.5
Seattle, Wash.	18.0	2.0	21.0	16.5
Tacoma	18.0	2.0	21.0	16.5
Spokane	22.0	2.0	25.0	20.5
Phoenix, Ariz.	33.0	3.0	36.0	21.5

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Incldg tax of	Service station	Tank wagon
Basin, Wyo.	17.0	1.0	....	14.0
Casper	15.0	1.0	17.0	12.0
Cheyenne	16.5	1.0	18.5	13.5
Cody	18 0	1.0	....	15.0
Lander	17.0	1.0	....	14.0
Albuquerque, N. M.	19.0	1.0	21.0	15.0
Salt Lake Utah	20.0	2.0	22.0	17.0
Ogden	20.0	2.5	22.0	17.0
Denver, Colo.	16.0	2.0	18.0	13.5
Glenwood Spgs.	20.0	2.0	....	17.5
Pueblo	16.0	2.0	18.0	13.5
Billings, Mont.	18.5	2.0	20.5	14.5
Butte	20.0	2.0	22.0	15.0
Great Falls	20.0	2.0	22.0	16.0
Helena	20.0	2.0	22.0	16.0
Miles City	19.5	2.0	21.5	15.5
Missoula	21 0	2 0	23 0	16 0
Boise, Idaho	21.5	2.0	23.5	19.0
Idaho Falls	21.0	2.0	23.0	18.5

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Incldg tax of	Service station	Tank wagon
*Pittsburgh, Pa.	13.0	...	19.0	14.0
*Philadelphia	13.0	...	19.0	14.0
*Scranton	14.0	...	19.0	14.0
*Allentown	14.0	...	19.0	14.0
*Altoona	14.0	...	19.0	14.0
Dover, Del.	16.0	2.0	19.0	14.0
Wilmington	16.0	2.0	19.0	14.0

*Pennsylvania tax of 2 cents is collected by the dealer and paid by him direct to the State

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Incldg tax of	Service station	Tank wagon
Albany, N. Y.	14.0	...	....	13.0
*New York	14.0	...	....	13.0
Buffalo	14.0	...	....	12.0
Rochester	14.0	...	....	13.0
Syracuse	14.0	...	....	12.0
Boston, Mass.	13 0	...	....	13.0
Providence, R. I.	13.0	...	....	13.0
Augusta, Me.	14.0	1.0	....	13.0
Manchester, N. H.	15.0	2.0	....	13.0
Burlington, Vt.	14.0	1.0	....	13.0

*Price in steel barrels.
Note: Standard Oil Co. of New York does not quote service station prices in its territory. In most cases the service station price is 2 or 3 cents higher than tank wagon price.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero
	Tank wagon	Incldg tax of	Service station	Tank wagon
Omaha	11 0	...	13.0	11 5
Crawford	14.0	...	....	12.25
McCook	14.75	...	16.75	13.0
Norfolk	13.75	...	15.75	12.0
North Platte	14.75	...	16.75	12.75
Scotts Bluff	14.25	...	16.25	12.25

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Incldg tax of	Service station	Tank wagon
Dallas, Tex.	10.0	1.0	13.0	10.0
Fort Worth	10.0	1.0	12.0	10.0
Houston	11.0	1.0	15.0	10 0
San Antonio	10 0	1.0	12.0	10.0
El Paso	12.0	1.0	14.0	11.0
Muskogee, Okla.	12.0	2.5	17.0	11.0
Oklahoma City	12.0	2.5	15.0	10.0
Tulsa	12.0	2.5	15.0	10.0
Ft. Smith, Ark.	15.0	4.0	18.0	12.0
Little Rock	17.0	4.0	19.0	13.0
*Texarkana	16.0	4.0	19.0	13.0

*Does not include 1c additional tax.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Incldg tax of	Service station	Tank wagon
All Ohio points	15.0	...	17.0	14.0

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Incldg tax of	Service station	Tank wagon
New Orleans, La.	13.5	2.0	15.5	9 0
Alexandria	14.5	2.0	16.5	13.0
Baton Rouge	13.0	2.0	15.0	11.5
Lake Charles	14.5	2.0	16.5	13.0
Shreveport	14.5	2.0	16.5	13.0
Memphis, Tenn.	14.0	2.0	16.0	14.0
Chattanooga	15.0	2.0	17 0	14.5
Knoxville	16.5	2.0	18.5	15.0
Nashville	15.5	2.0	17.5	13.5
Bristol	17.0	2.0	19.0	13.5
Little Rock, Ark.	17.0	4.0	19.0	13.0

TANK WAGON CHANGES

October 13.—Continental Oil Co. reduced gasoline tank wagon and service station prices 1 cent at Boise and Idaho Falls, Idaho.

October 7. — Magnolia Petroleum Co. reduced gasoline tank wagon and service station prices 3 cents at San Antonio, Tex.

October 8. — Magnolia Petroleum Co. reduced gasoline tank wagon price 2 cents and service station 3 cents at Dallas, Tex., and reduced gasoline tank wagon and service station prices 3 cents at Houston. Kerosene tank wagon prices were reduced 1 cent at Fort Worth, 2 cents at Houston and 1 cent at El Paso.

NORTH TEXAS MARKET SHOWS LITTLE CHANGE

FORT WORTH, Tex., Oct. 13.—The refined oil products market in the North Texas district failed to develop any outstanding features during the week. New Navy gasoline was slightly stronger, an increased demand that moved all surplus stocks, forced the price up around ¼-cent. Most orders were placed at 6¾ cents, few bringing 7 cents at the week-end.

The higher grades of gasoline were in brisk demand, forcing the price up ¼-cent, with 64-66, 375 end point firm at 8¾ cents to 9¼ cents.

Natural gasoline weakened because of a scarcity of orders, with plenty in stock, the price declined on all grades at least ¼-cent a gallon, with double and single A quoted at 7¾ cents to 8 cents. Double and single B, 7½ cents to 7¾ cents; and C 7 cents to 7¼ cents. Fuel oil lost all the price increase of last week and a rush to place orders by the refiners forced the price back to 90 cents at Wichita Falls, with buyers willing to place orders at that figure.

The kerosene market was quiet, a slight decrease in price followed a downward trend in demand, with water white selling at 4½ cents to 4⅝ cents, prime white at 4¼ cents.

Gas oil was stationary in demand and price, 2¾ cents was generally recognized as standard, with the movement weak.

BARNSDALL CORP. SAYS BAKU LOSS ANOTHER'S

NEW YORK, Oct. 13.—A London report reiterates that after heavy investment in machinery and one year's drilling, the International Barnsdall Corp. has closed down its operations in the Baku district, Russia, and is leaving the country. The work is a total loss. Barnsdall, it is said, had drilled to 2,300 feet, reaching within a dozen feet of oil, when Moscow ordered operations closed down.

Robert Law, Jr., president of the Barnsdall Corp., says it has suffered no loss through the shutting down of operations in the Baku district of Russia by the International Barnsdall Corp. He says: "The Barnsdall Corp. has had no substantial interest in the International Barnsdall Corp. for two years. The Barnsdall Corp. sold its interest in International Barnsdall, which was formed for the purpose of doing business in Russia, over two years ago to a private syndicate, which took over the Barnsdall Corp. interest and assumed all obligations of the financing without charge to the Barnsdall Corp. Therefore the Barnsdall Corp. suffers no loss whatever by reason of the shutting down of the operations in the Bauku district."

SECRETARY OF NAVY SUMMONED IN SUIT

NEW YORK, Oct. 13.—Pan American Petroleum & Transport Co. states with regard to the Government suit for the cancellation of the California naval oil reserve leases:

"Judge Paul McCormick, United States District Court at Los Angeles, has issued a special subpeona calling Curtis D. Wilbur, Secretary of the Navy, to Los Angeles for the opening of the Government suit whereby it seeks to cancel the Doheny oil lease. Secretary Wilbur is subpoenaed as a witness for the defense and is required to submit to the court certain files of the Navy Department, on which it is understood the Pan American Petroleum Co. relies to demonstrate the great importance to the national defense of the accumulation of fuel oil on the Pacific Coast and the construction of adequate storage and lightering facilities at Hawaii.

"Court proceedings in the Government suit to cancel the leases will begin in Los Angeles October 20."

Edward L. Doheny, chairman of the Pan American Petroleum & Transport Co., left on the Twentieth Century Limited for California to be present at the opening of the trial. He was accompanied by Frederick R. Kellogg and Frank J. Hogan, attorneys.

NEGOTIATIONS ON OIL IN IRAQ PROGRESS

Considerable interest has been aroused in Bagdad, according to a copyright cable to the New York Times, by the negotiations between the Turkish Petroleum Co. and the Government of Iraq regarding the terms of the company's concessions in the vilayets of Mosul and Bagdad, which are understood to have reached an advanced stage.

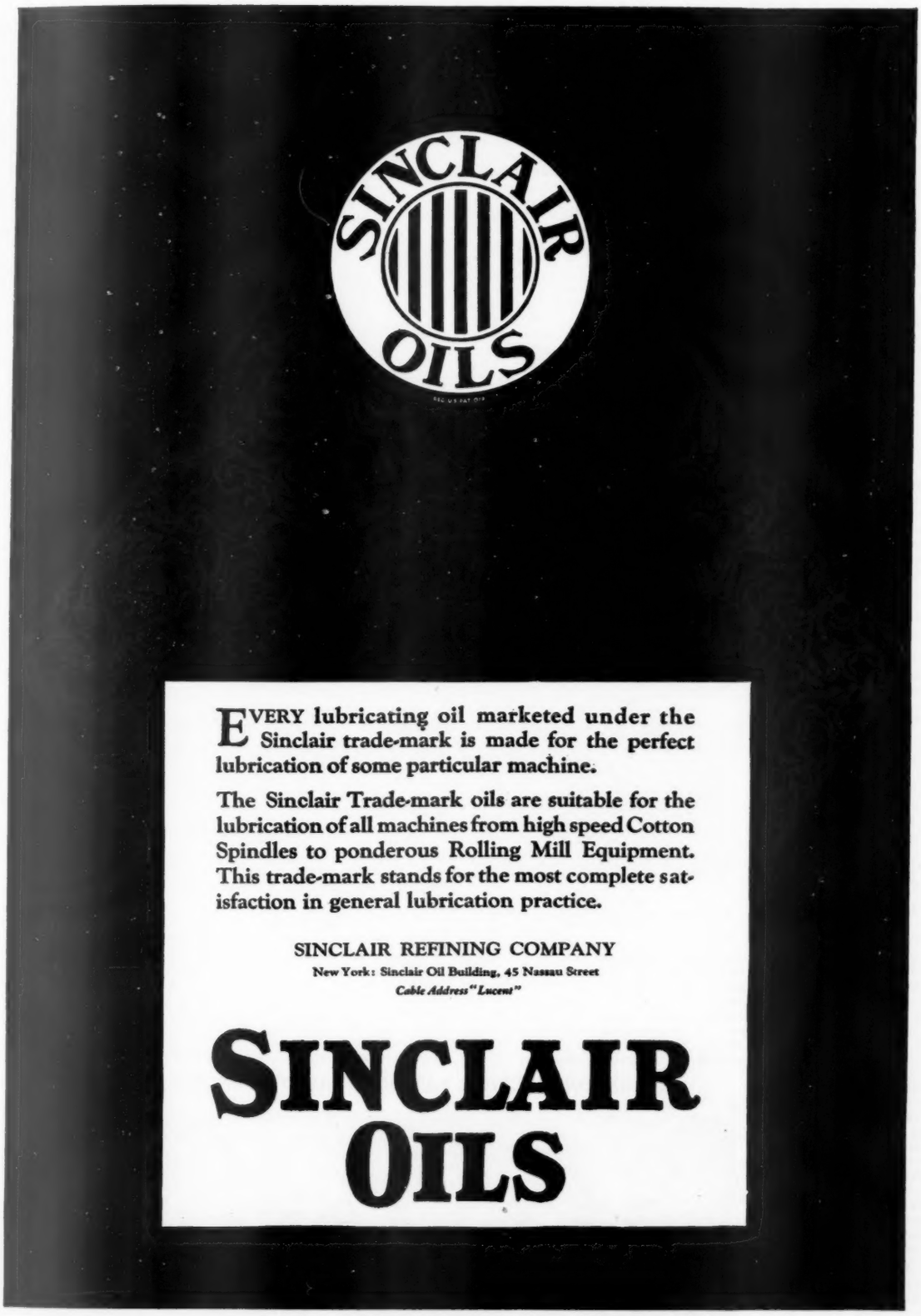
Iraq opinion is swayed by two contradictory influences. On the one hand there is a general desire that the exploitation of this wealth should be begun with the least possible delay so the revenues of Iraq may reap the fruits. This influence received a stimulus from the visit made by King Feisal and some of his ministers to the Anglo-Persian Oil Co.'s workings in the transferred territories. They were greatly impressed by what they saw and returned with renewed determination to promote the inception of similarly productive operations in Iraq proper. On the other hand Iraq feels that in bargaining with a big European company it is at a disadvantage. The more extreme Nationalist newspapers are cultivating in the minds of their readers a picture of the British Government as a capitalistic octopus which is spreading its tentacles round the wealth of the world in general and the oil producing areas or Iraq in particular.

SINCLAIR PERSIAN STATUS EXPLAINED

NEW YORK, Oct. 13.—The status of the contract made by Sinclair Consolidated Oil for a concession on the four northern provinces of Persia remains unchanged, so far as local offices of the company are informed, despite contrary reports as to the disposition of concession on these provinces.

Some months ago Sinclair signed a contract for a concession for oil development on these provinces, the granting of the actual concession to await approval by the Persian Parliament. The Parliament has been in session for some time and has taken up and voted on each article separately. The company's offices are informed, on latest advices, that all but two of the articles had been acted on and that those taken up so far have been approved.

Some days ago a Moscow dispatch reported Sinclair had disposed of its contract to an English company for $50,000. There is nothing to this, according to the Sinclair company. A second report had it that Sinclair had accepted the concession, but this was obviously in error as Sinclair has always made the contract and the acceptance lies with the Persian Parliament.



EVERY lubricating oil marketed under the Sinclair trade-mark is made for the perfect lubrication of some particular machine.

The Sinclair Trade-mark oils are suitable for the lubrication of all machines from high speed Cotton Spindles to ponderous Rolling Mill Equipment. This trade-mark stands for the most complete satisfaction in general lubrication practice.

SINCLAIR REFINING COMPANY
New York: Sinclair Oil Building, 45 Nassau Street
Cable Address "Lucent"

SINCLAIR
OILS

Fire Prevention in Oil Properties

Fundamental Conditions Which Give Rise to Fires in Tanks, and Stills. Hazards From Static Electricity and Carelessness

By Frank A. Epps
Tide Water Oil Co.
Before National Safety Congress, Petroleum Division, Louisville, Ky.

Statistical evidence tells us that lightning is the cause of greater fire loss to the oil industry than all other fire causes put together. A wooden, or non-gas-tight tank roof is almost invariably a preliminary condition to oil tank ignition by lightning.

There are several theories regarding the ignition of wooden roofed tanks. Undoubtedly there are a number of "direct hits." Experiments made by the General Electric Co. indicate that a tall object will only draw the direct hits that would otherwise fall within a zone whose radius would be four times the height of the object.

Thus, a tank 30 feet high will probably receive discharges that would otherwise strike the earth within a circle concentric with the tank but 120 feet greater in radius. You will thus see that the tank, even though highly conductive to electricity does not draw direct hits from lightning to any appreciable extent.

The evidence indicates that a large proportion of tank fires attributed to lightning are caused in an indirect manner. It is commonly accepted that a column of gas vapor ascends from such tanks at least several hundred feet. Lightning when flashing through this vapor zone is presumed to cause a flash-back to the tank.

If you will consider the facts, I think you will agree it is highly improbable a tank would be ignited in this manner. The vapors from crude oil and gasoline are largely pentane and hexane, with perhaps smaller portions of propane and butane. All those gases are from one and one-half to three times heavier than air, and it is not probable they would rise to any extent. Secondly, a thunder storm not accompanied by more or less wind is unusual. The production of wind is part of the storm itself. Any wind or breeze would very rapidly dissipate the column of gases which might be hovering above the tank. Thirdly, even assuming the gases would rise, it is not probable a mixture rich enough to propagate flame would extend several hundred feet into the atmosphere. But even so, the thunder cloud is usually from 2,000 to 5,000 feet above the earth, and this being true of what account would be a column of vapor a few hundred feet high?

It is much more likely the lightning strikes the ground in the vicinity of the tank, and the heavy vapors trailing along the ground in a rich enough mixture, flash-back to the tank itself. But here again the wind and breeze serve to dissipate and diffuse the vapors quickly.

We have all been around such tanks. Do we usually detect odors of hydro carbon gases in the vicinity? No, we do not. While this is not conclusive evidence of the non-existence of an inflammable mixture, still it is a very fair indication that any vapor air mixture which is present, is too lean to propagate flame. To my mind this refutes the theory of flash-back from the ground—except in exceptional cases where distinct gas pockets are known to exist.

Ignition by Induced Charge

In all probability ignition takes place through what is known as an "induced charge." You have often heard of a man being knocked unconscious, or being shocked by lightning as he stood under a tree which was struck. You can hardly fail to appreciate that not the faintest part of the bolt of lightning which struck that tree touched the man. He was shocked by an "induced charge." We know that positive electricity attracts negative and vice versa. A cloud overhead, charged with negative will destroy the electrical equilibrium on the earth beneath by attracting charges of positive electricity to the tops of promontories on the earth. The man standing under the tree had a heavy positive charge drawn to the top of his head. When the cloud discharged to the tree the attraction upward for the electricity in the man's head no longer existed, and it immediately rushed back to earth to restore equilibrium. The man was thereby shocked by the current passing through his body. On a wooden roofed tank covered with sheet iron, the respective sheets of same not being well bounded together, the same thing happens only the electricity in rushing back to the ground jumps over a joint between two sheets not bound together, and produces a spark. This spark is produced right where a rich mixture of gas exists and it need only be a few hundredths of an inch long to fire the contents of the tank. This is, I believe, the true explanation for the ignition of so many wooden roofed tanks.

At first thought, it is remarkable how few steel roofed tanks are ignited by lightning. Certainly the steel roofed tank is not less subject to being struck by a direct hit than a wooden roofed tank. Undoubtedly lightning actually strikes a great many steel roofed tanks and we hear nothing about it. The discharge is immediately conducted to ground by the great conductivity of the steel roof and the shell of the tank. If the tank has no holes in it, if the different hatches are closed and the vent is protected with a fire screen, an all steel tank is really a very safe proposition. Experimentally demonstrated it is impossible for a spark to be produced within such a container by any external electrical manifestation. I am confident that every steel roofed tank fire caused by lightning can be traced directly back to an open gauge hatch, open manhole, defective vent screen or other non-gas-tight condition in which vapor was ignited outside and flashed back to the interior of the tank. I do not believe it is possible to set fire to an all steel gas-tight tank by lightning and I actually know of one case where lightning was seen to strike such a tank and no ignition resulted therefrom. To prevent tank fires from lightning I am satisfied that it is only necessary to provide gas-tight all-steel construction and supply reasonable maintenance. Specifically then, we safety engineers can urge our companies to make tanks gas-tight and then our inspection can aid in maintaining them so.

E. J. SENNE
Chairman Petroleum Section, National Safety Council

Frank A. Epps and Frank T. Sloan, of the Tide Water Oil Co.

Tank Spacing

Another cause of tank fires is exposure to other fires, but again the wooden roof is the primary evil. The gas-tight, steel roofed tank will withstand very severe conditions of prolonged exposure. Instances can be cited where such tanks have been surrounded for hours by blazing seas of oil, and except for the loss of paint and distillation of some oil, there has been no damage. Under such conditions a gas-tight tank will act like a large still, and the vapors produced will burn from the vents like huge torches.

The subject of tank exposure, both to adjacent tanks and adjoining property has been the source of much difference of opinion between certain of the fire insurance interests and the oil companies. Most of the discussion has arisen since 1920 when the regulations of the National Board of Fire Underwriters applying to oil containers came up for revision. It is still unsettled. The American Petroleum Institute has collected information, opinions and experiences from the oil industry from coast to coast. Branch advisory committees of oil men were formed in every section. As the result the American Petroleum Institute submitted on behalf of the oil industry their findings—to the effect that gas-tight steel tanks need not be spaced further apart than one tank diameter shell to shell to provide every reasonable and safe precaution against the exposure hazard. This conclusion was substantiated by numerous actual fires.

The fire insurance interests did not agree to that proposition; so far as adjoining property was concerned. A compromise was reached which divided oils into three general grades according to volatility and provided distances to adjoining property equal to two, one and one-half and one and one-fourth tank diameter depending upon grade of oil, with maximum requirement of 175 feet, 150 feet and 125 feet distance respectively for each grade. Tank to tank spacing was permitted to remain substantially as recommended.

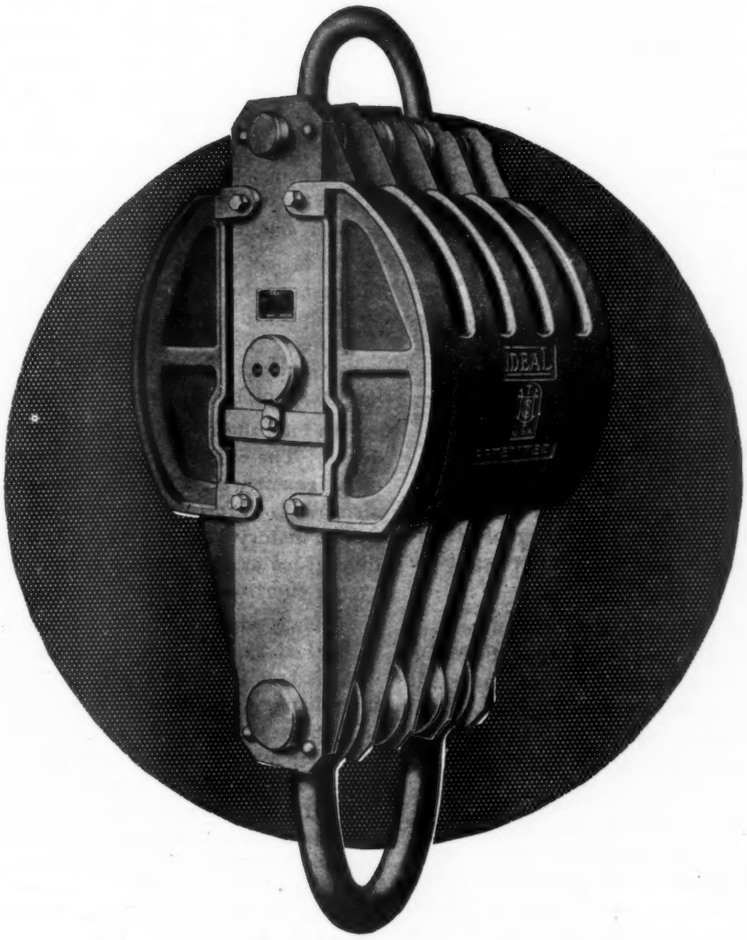
When this compromise was presented to the National Fire Protection Association debate was raised by other fire insurance interests with the result that the matter has now been referred to a special arbitration committee.

Unfortunately the numerous cases of non-gas-tight tanks being ignited, and the crude oil boil-overs following certain of such fires have produced vivid impressions in the minds of many people of the ease with which an oil tank is ignited. As a matter of fact, the gas-tight steel roofed tank is an entirely different breed of cats, and the few scattered instances of fires in such tanks indicate that oil so stored is a far less fire hazard to adjoining property, than almost any other kind of structural exposure. In view of this the extreme penalties of isolation imposed upon oil tanks, certainly should not be made to

(Continued on Page 120)

PETROLEUM SECTION, NATIONAL SAFETY CONGRESS AT LOUISVILLE KY.

IDEAL
Wire Line Guard



MAKES CASING BLOCKS SAFE AND EASY TO HANDLE

THE NATIONAL SUPPLY COMPANIES

The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

Published Weekly by
THE PETROLEUM PUBLISHING COMPANY
114-116 West Second Street
TULSA, OKLA.

Established as an International Publication in 1910 by Patrick C. Boyle.

President	Frank T. Lauinger
Vice President and General Manager	Robert W. Egan
Treasurer	H. J. Bryan
Secretary	W. T. Bryan
Editor	James McIntyre
Associate Editor	Andrew M. Rowley
Associate Editor	W. T. Anderson
Associate Editor	C. O. Willson
Advertising Manager	Clarence Morris
Circulation Manager	J. P. Mulkern

DISTRICT ADVERTISING OFFICES

30 Church Street, NEW YORK — 1328 Peoples Gas Bldg., CHICAGO, ILL.
PITTSBURGH, PA., 1003 Jones-Law Bldg.

TERMS OF SUBSCRIPTION
(By Mail, Postage Prepaid)

Single copies	$ .15	One year (in United States)	$6.00
Three months	$2.00	One year (in Canada)	$7.00
Six months	$3.00	One year (foreign countries)	$7.00

ADVERTISING RATES ON APPLICATION
Telephone: Osage 1930—Osage 7538
Remittances by Checks, Drafts, Express or Postal
Money Orders should be made payable to
The Petroleum Publishing Company
Cable address, "Oilgasnal"

MEMBER AUDIT BUREAU OF CIRCULATION

THE FUTURE OF THE EXPOSITION

The International Petroleum Exposition of 1924 more than justified expectations. It was a truly wonderful display of oil industry machinery and equipment, the largest and most remarkable the world has ever seen assembled.

Great credit is due to President L. B. Jackson, Treasurer J. J. McGraw, the board of directors, and General Manager E. F. McIntyre and his staff for the successful administration of the great show, and to the several hundred exhibitors who entered so enthusiastically into the ambitious plans to make it a complete and comprehensive exposition of the operations of the entire oil industry.

The differences of opinion which have arisen regarding the future of the Exposition are wholly apart from this unanimity of sentiment regarding the success of the exhibition just closed. They have nothing to do with the cost incurred since there is general agreement that as a market for buyers the results have abundantly justified the expense.

The point at issue is very simple and very practical. It arises from the desire of all concerned to establish the Exposition on a sound and enduring basis.

Some believe this continuity will best be attained by holding the Exposition annually. Others think there will not be sufficient new exhibits developed in a twelve months' period to provide a new show each year and that failure to offer novelties will handicap the Exposition by giving it the stigma of sameness.

The Oil and Gas Journal is published at Tulsa but it is a national publication. The International Petroleum Exposition has been held in Tulsa, as the World's Oil Capital, but as an institution it belongs to the whole industry. Whatever policy will best assure its permanence and progress is the issue to be determined.

Advocates of annual, biennial or triennial shows have their reasons, convincing to themselves. But if these opinions are persisted in the effect must inevitably be fatal to the entire project. There is room for discussion. The situation calls for conference and counsel to the end that the plan most certain to make for the stability and continued success of the Exposition as an institution of the entire industry may be formulated and put into effect.

The exhibitors, without whose cooperation such an exposition would have been impossible, have an admitted right to their opinions as to the frequency of exhibitions. The management of the Exposition, responsible for the general financing and direction of the show, have a recognized right to their views as to the policy to be pursued.

There should be nothing incompatible between these viewpoints, since it is conceded both are maintained with a like desire to do what is best for the institution not for one year but for all the years to come.

That is the encouraging feature of the controversy, the evident sincerity and anxiety for all parties to have the Exposition established upon an unshakeable foundation. When their motive is the same, untinged by any selfish consideration, men may differ in judgment but must eventually reach a unanimous conclusion favorable to the common purpose.

The very success of this year's Exposition, so creditable alike to the management and to the exhibitors, whether considered industrially or financially, has made it all the more imperative that nothing shall be allowed to wreck such fair prospects.

It is agreed that the International Petroleum Exposition, on the basis of this year's exhibition, is a splendid thing for the industry, helpful to those engaged in it and of immense educational value. A project which has attained such proportions in two short years and which has been so universally approved by the industry at large cannot be allowed to falter through dissension over detail.

In fact, there is no thought anywhere of allowing it to be abandoned. The only fear is that this might result if honest difference of judgment were allowed to become misunderstanding and antagonism. It is unfortunately true that many of the bitterest controversies of history have developed in just that way, not from any vital divergence at the outset but from beclouding of the original issue by the controversial spirit.

This is what should be avoided in the present instance. A point of contact can be secured, surely, among men anxious to do only what is best for the same end. There should be prompt and frank interchange of opinions, clearing away all misconceptions and uniting in an earnest effort to find the best solution for the problem of establishing this great industrial institution upon a lasting basis.

The Oil and Gas Journal understands perfectly the sentiment which favors an annual Exposition and the forcefulness of the argument that without something new to exhibit the Exposition might find too frequent exhibitions monotonous and weakening. Is there not ground for compromise between the one year and three years advocates? The Oil and Gas Journal believes a two years interval would mean a stronger Exposition and yet be sufficient to assure the continuity that all desire.

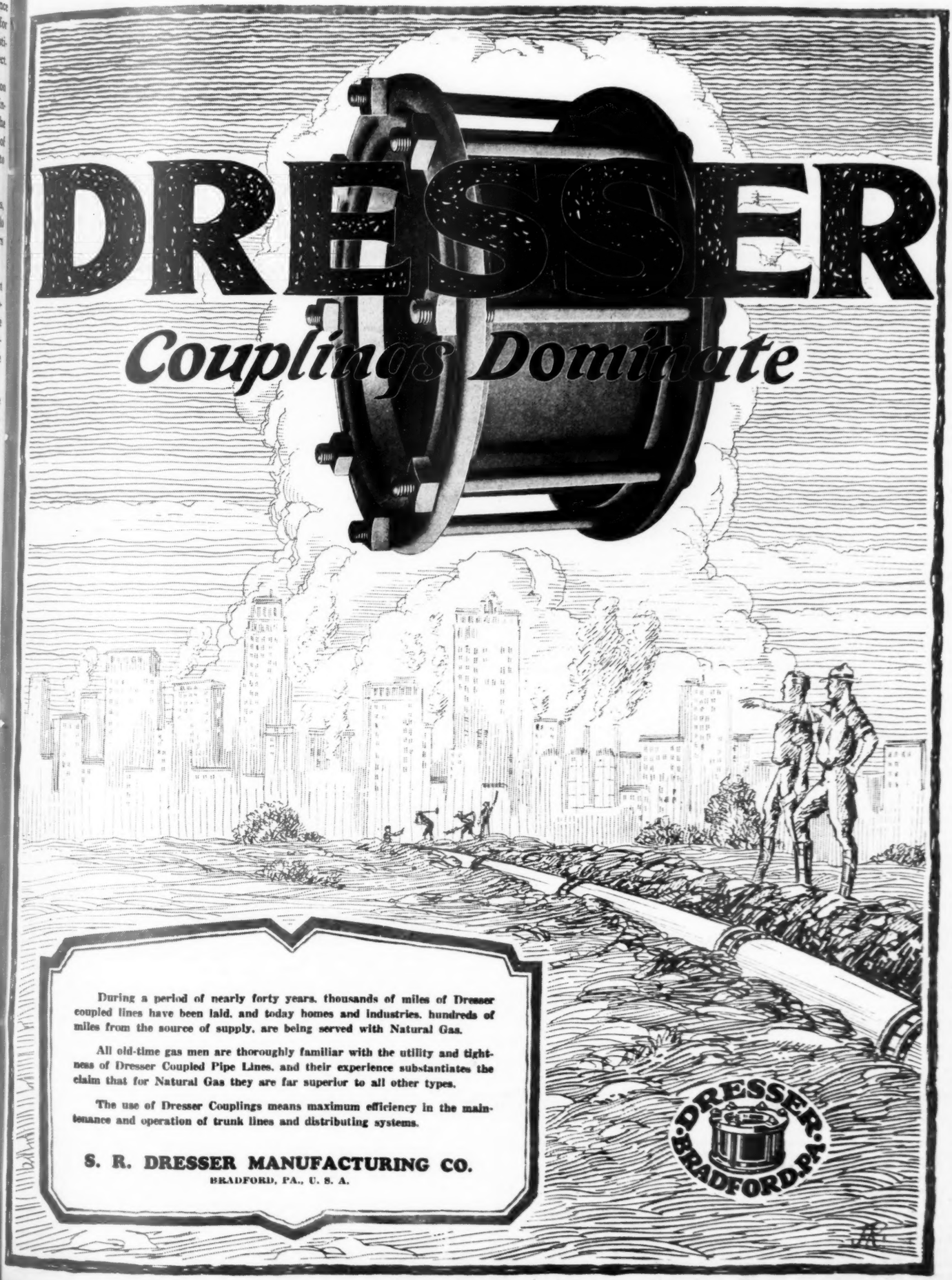
After all, it is primarily and purely a matter of business policy to be discussed and decided by business men in a business-like way. Both management and exhibitors have put their money into the enterprise and are entitled to their judgment on the means of perpetuating the institution.

The Oil and Gas Journal hopes that steps will be taken to reach a definite decision at a date as early as possible so that the future of the Exposition may not be left in doubt, usually the most harmful influence in a case of this kind. The Exposition idea is too good, its demonstration this year too conclusive, to be hampered or weakened by wavering counsel and uncertain plans.

The good-will and good-fellowship which made the International Petroleum Exposition of 1924 the amazing success it was everywhere acclaimed to be should now be exerted to securing by concerted and harmonious effort its permanence as the timekeeper of the progress of the petroleum industry.

DRESSER

Couplings Dominate



During a period of nearly forty years, thousands of miles of Dresser coupled lines have been laid, and today homes and industries, hundreds of miles from the source of supply, are being served with Natural Gas.

All old-time gas men are thoroughly familiar with the utility and tightness of Dresser Coupled Pipe Lines, and their experience substantiates the claim that for Natural Gas they are far superior to all other types.

The use of Dresser Couplings means maximum efficiency in the maintenance and operation of trunk lines and distributing systems.

S. R. DRESSER MANUFACTURING CO.

BRADFORD, PA., U. S. A.

Oklahoma Field Operations

By C. D. Lockwood

Three deep sand wells completed in Tonkawa Field last week. Roxana brings in well at Cromwell starting at 95 bbls. hourly. East dip of Cromwell structure center of interest as result of finding big gas flow. Production of various fields in Oklahoma shows decline.

While most of the operators and scouts as well as lease men, geologists and nearly everybody else connected with the oil business suspended activities in order to take in the Petroleum Exposition at Tulsa, Tonkawa drillers stayed on the job and brought in some deep sand producers, and the Tidal-Osage Oil Co. focused interest on the speculative east dip of the Cromwell structure by finding gas in its No. 1 King, C NW SW SW, Section 14-10-8. Aside from these two localities, however, developments were meager.

The Tidal well referred to found the sand at 3,503 feet and started making 2,000,000 feet of gas. When deepened 1 foot in the sand, it increased to 4,000,000 feet. Since this well is half a mile east of production, it will bear close watching although at the present time, no prediction as to the amount of gas it will find or the oil, if any, can be made. It was the first well started on the Okfuskee County side of the 10-8 territory.

The thirty-fifth well in the Tonkawa deep sand was T. B. Slick & Comar Oil Co.'s No. 7-E Endicott, SW cor. SE SW, Section 35-25-1w, a north offset to the Gypsy Oil Co.'s No. 83 Shawver. It made 500 bbls. in its first 14 hours from sand at 3,931-59 feet, and on October 10 produced 2,555 bbls. with total depth at 3,989 feet. First oil came at 3,954 feet. The Amerada Petroleum Corp.'s No. 34 Woods or Goltry, SW SW NE, Section 34-25-1w, offsetting Wentz Oil Corp.'s No. 45 McKee and Comar Oil Co.'s No. 1 Beverlin, was the next one in, starting at 427 bbls. while drilling in and later increasing to 2,210 bbls. from sand at 4,055-95 feet. The Wentz Oil Corp.'s No. 29 McKee, SE cor. SW, same section, was the thirty-seventh well (not counting the Comar Oil Co.'s No. 1 Ogg which was not producing) and it was swabbing 161 bbls. from sand found at 4,310-19 feet.

In the Cromwell Field, the Roxana Petroleum Corp.'s No. 3 Brown, C NE SW SW, Section 10-10-8, was making 95 bbls. an hour from sand found at 3,428-3,520 feet.

Extension Well Deepened

The Laurel Oil & Gas Co.'s important extension well in the Cromwell Field, No. 1 Fixico, C SE SW NW, Section 4-10-8, was deepened early last week to 3,431 feet in sand topped at 3,405 feet, with first oil at 3,412 feet and the production was not helped. Monday it was making 165 bbls. of oil and half a bailer of water daily. That looks like the northwestern edge of the field.

The Carter Oil Co. & Gardner Petroleum Co.'s No. 3 Bunner, NE cor. SE SW, Section 9-10-8, came in for 50,000,000 feet of gas and 545 bbls. of oil from sand topped at 3,372 feet, with first oil at 3,378 feet and drilled to 3,446 feet.

A development in the Tonkawa Field that has the wise ones puzzled is the showing of water in the Comar Oil Co.'s No. 5-W C. C. Endicott, NW cor. NE SE, Section 34-25-1w, which is one of the highest wells in the field structurally and had a production peak of 4,600 bbls. on September 1. On October 10, it was down to 719 bbls. but the water had also declined to 17 bbls. whereas it had made 75 bbls. the day before and 54 bbls. of water the day before that. The same company's No. 1 Gaume, SW cor. SE, Section 35-25-1w, was another well showing water, the first making its appearance October 8, when its production was 3,527 bbls. There was 108 bbls. of water with 3,291 bbls. on the ninth and 84 bbls. of water with 3,148 bbls of oil on the tenth. The total depth of this well is 4,079 feet. Opinion is divided as to the origin of the water in both of these wells, and tests were being made to determine whether it is coming from the sand in either case.

In the northeast trend of the Papoose Field, the Cosden Oil & Gas Co.'s No. 5 Alexander, Section 3-9-9, was good for 1,050 bbls. from sand at 3,289-3,306 feet.

Another big Osage County well in the lime break, was E. B. Lawson's No. 7, in the NW of Section 28-25-8. Top of the second break was reached at 2,687½ feet and with the bit a foot in the pay, production started at 50 bbls. an hour.

Tonkawa deep sand production on October 13 was 74,195 bbls. from 37 wells; on the twelfth it was 72,689 bbls. and on the eleventh, 75,504 bbls. from the same number of producers.

Production in Tonkawa

Daily average production in the Tonkawa Field for the week ended October 8 was as follows by companies:

Company—	Wells	Bbls.
Amerada Petroleum Corp.	35	3,516
Blackwell Oil & Gas Co.	20	3,664
Carter Oil Co.	5	171
Champlin Refining Co.	2	8
Champlin Refining Co. and Twin State Oil Co.	1	23
Comar Oil Co.	339	44,933
Cosden Oil & Gas Co. and Maryland Refining Co.	13	340
Gypsy Oil Co.	97	12,060
Healdton Oil & Gas Co.	27	1,411
Wentz Oil Corp.	44	12,082
McMan Oil & Gas Co.	1	6
Pennok Oil Co.	31	7,117
Phillips Petroleum Co.	2	90
Prairie Oil & Gas Co.	12	508
Sinclair Oil & Gas Co.	1	15
T. B. Slick-Comar Oil Co.	34	11,688
Southwestern Petroleum Co.	15	625
The Texas Co.	5	60
White Eagle Oil & Ref. Co.	7	164
Total	706	98,481
Total last week	704	107,107
Difference	2	8,626

Deep Sand Production

Pennok Oil Co., Endicott	6	7,971
Comar Oil Co., Beverlin	1	3,503
Comar Oil Co., Carmichael	3	6,527
Comar Oil Co., L. Endicott	3	5,688
Comar Oil Co., C. C. Endicott	6	14,260
Comar Oil Co., Gaume	1	4,123
Gypsy Oil Co., Shawver	4	9,907
T. B. Slick-Comar, Endicott	6	9,751
Blackwell Oil & Gas Co., McDaniels	1	2,507
Wentz Oil Corp., McKee	2	10,350
Amerada Pet. Corp., Woods	1	2,644
Total	34	77,231
Total last week	32	82,962
Difference	2	5,731

Daily average pipe line runs from the field were as follows: Kay County Gas Co., 30,540 bbls.; Ozark Pipe Line Co., 25,571 bbls.; Gulf Pipe Line Co., 11,313 bbls.; Champlin Refining Co., 19,014 bbls.; Bolene Refining Co., 2,035 bbls.; Globe Refining Co., 5,000 bbls.; Moore Refining Co., 4,520 bbls.; Producers & Refiners Corp., 508 bbls.; Enid Oil & Pipe Line Co., 100 bbls.; Oklahoma Pipe Line Co., 171 bbls.; Empire Pipe Line Co., 747 bbls.; Prairie Pipe Line Co., 1,520 bbls.

Burbank Production

Daily average production of companies in the Burbank Field for the week ended October 8 was as follows:

Company—	Wells	Bbls.
Carter Oil Co.	313	14,185
Comar Oil Co.	7	196
Cosden Oil & Gas Co.	105	3,753
Devonian Oil Co.	16	244
Gardner Petroleum Co.	20	528
Gypsy Oil Co.	199	6,412
Kawanee Oil & Gas Co.	25	641
Laurel Oil & Gas Co.	16	280
Lorraine Petroleum Co.	15	191
Midland Oil Co.	37	2,185
Mid-Kansas Oil & Gas Co.	39	1,815
Peters & Oliphant	2	199
Phillips Petroleum Co.	85	9,281
Phillips Petroleum Co. and Delmar Oil Co.	16	2,148
Phillips Petroleum Co. and Skelly Oil Co.	173	6,530
Prairie Oil & Gas Co.	106	3,082
Producers & Refiners Corp.	29	485
Roxana Petroleum Corp.	57	828
Simons, Moore et al	29	280
Sinclair Oil & Gas Co.	145	3,586
Skelly Oil Co.	21	1,287
Tidal-Osage Oil Co.	43	871
The Texas Co.	3	326
Twin State Oil Co.	24	1,499
Total Burbank proper	1,422	60,802
Total last week	1,420	61,411
Difference	2	609

Kay County Extension

George S. Bole	3	488
Carter Oil Co.	11	1,491
Comar Oil Co.	19	1,181
Cosden Oil & Gas Co.	16	1,363
Gypsy Oil Co.	19	915
Laurel Oil & Gas Co.	5	537
Mid-Kansas Oil & Gas Co.	10	1,011
Phillips Petroleum Co.	30	3,621
Prairie Oil & Gas Co.	4	328
Pure Oil Co.	5	285
Roxana Petroleum Corp.	8	380
Dye, Tomlinson et al	8	663
Skelly Oil Co. and Phillips Petroleum Co.	20	448
Sinclair Oil & Gas Co.	5	532
The Texas Co.	16	383
Twin State Oil Co.	15	969
Total extension	194	14,585
Total last week	195	14,770
Difference	1	185
Total Burbank	1,616	75,387
Total last week	1,615	76,181
Difference	1	794

Daily average pipe line runs from the Burbank Field for the week ended October 8 follow: Gulf Pipe Line Co., 8,996 bbls.; Cosden Pipe Line Co., 6,661 bbls.; Kay County Gas Co., 6,482 bbls.; Osage Pipe Line Co., 1,115 bbls.; Oklahoma Pipe Line Co., 23,491 bbls.; Prairie Pipe Line Co., 3,900 bbls.; Sinclair Pipe Line Co., 4,118 bbls.; Moore Refining Co., 1,706 bbls.; Standish Pipe Line Co., 10,946 bbls.; Empire Pipe Line Co., 1,033 bbls.; Mid-Kansas Oil & Gas Co., 2,869 bbls.; Twin State Oil Co., 2,313 bbls.; Ozark Pipe Line Co., 1,757 bbls. Total, 75,387 bbls.

Record by Fields

The tables were turned during the week ended October 8 so far as new fields were concerned, and the Cromwell and Wewoka Fields showed an increase while all others, including the Papoose Field and Tonkawa, slumped. It required 9 new wells to stay the customary drop in Cromwell production, but the figures showed 40,772 bbls. daily from 112 producers, a gain of 123 bbls. The Wewoka Field's daily average for the week jumped 1,209 bbls. with 2 new ones producing, bringing the total to 78 wells yielding 7,962 bbls. The Papoose Field's decline amounted to 787 bbls., due to the fact that no new producers were finished, the same 52 wells making 14,731 bbls. daily. The Stroud Field was good for 8,924 bbls. a day during the week, and 58 wells were producing.

Field operations for the week ended October 4 show a rather sharp decline, the total having been 1,357 operations, or 35 less than at the close of the previous week. On the latter date there were 58 locations, 146 rigs up, 769 wells drilling, 302 wells shut down and 82 completions, an increase of 9 locations and a drop of 15 rigs and 24 drilling wells.

Osage County

In Osage County, The Texas Co.'s No. 7, CWL NW NE, Section 29-25-8, topped the Mississippi lime at 2,414 feet and found the second break at 2,695 feet, with oil at 2,728-38 feet, putting 800 feet of fluid in the hole. Another pay at 2,740-44 feet was good for 33 bbls. an hour. This is an old well. It made 840 bbls. in 24 hours but later declined to 228 bbls. Same company was building a rig for its No. 10, CNL NE, same section.

The Mutual Oil Co. ran into water at 2,682-84 feet in its No. 8, NW cor. NE SE, Section 32-24-8, and the well was abandoned. It topped the Mississippi lime at 2,427 feet.

The Mid-Kansas Oil & Gas Co.'s No. 5, C SW NE SW, Section 12-23-8, was shot with 100 quarts in the Bartlesville sand at 2,066-2,100 feet and responded with only 15 bbls.

Pawnee County

In Pawnee County, the Galvez Oil Co.'s No. 4 Van Eman, CNL SE NE, Section 17-20-7, was shot with 100 quarts in oil sand at 2,648-77 feet and made 200 bbls. afterward.

The Twin State Oil Co. shot its No. 1 Fleming, SE cor. Section 8-20-7, with 20 and 40 quarts and the result was 40 bbls. output. Oil sand was topped at 2,605 feet and passed through at 2,617 feet, the hole having been bottomed at 2,641 feet.

Clifford and Van Eman were drilling their No. 3, Lot 17, Block 9, SE cor. NE NE, Section 17-20-7, at 350 feet. Ed Reese and others were spudding their No. 4, Lot 12, Block 3, NW cor. NE NE, same section. The Galvez Oil Co.'s No. 4 Van Eman, CNL SE NE, same section, was drilling with 500 feet of oil in the hole from sand at 2,648-72 feet.

J. H. White was drilling at 510 feet in his No. 1, NE cor. NW NW, Section 10-22-6.

In the northwestern part of the county, the Watchorn Oil & Gas Co.'s No. 2 Miller, NW cor. SE, Section 33-23-8, was good for 750 bb's. natural from sand at 4,137-44 feet. Same company's No. 5 Miller, CWL SW SW, Section 33, made 760 bbls. from sand at 4,122-30 feet; and No. 9 Miller, SW cor. SE SW, same section, produced 1,407 bbls. natural from sand at 4,079-4,104 feet.

John Markham's No. 1 Clark, SW cor. Section 9-20-7, made 70 bbls. following a 100-quart shot in sand at 2,580-2,600 and 2,612-20 feet. The Cosden Oil & Gas Co.'s No. 3 School Land, NW cor. SW NW, Section 16-20-7, which was good for 277 bbls. in 12 hours natural from sand at 2,606-39 feet, was shot with 5 and 10 quarts and increased to 450 bbls. Same company had rigs up for Nos. 5 and 6 along west line of NW NW, same section.

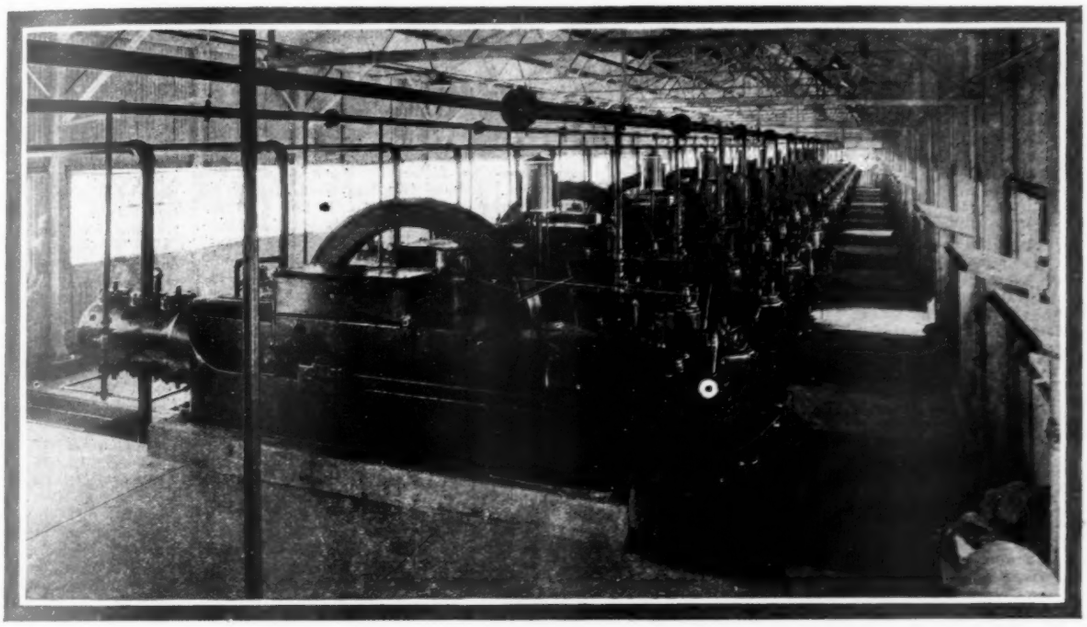
In Payne County, the Amerada Petroleum Corp. had a rig up for No. 1, SE cor. Section 24-19-1e. Mulberry & Skelly Oil Co. had 17,000,000 feet of gas in their No. 2 Payne, SW cor. SE SW, Section 32-18-4, in sand at 1,340-42 feet. The same company was drilling a twin to No. 2, its No. 3 Payne, at 360 feet.

Old Burbank Field

Small producers continue to be the order of the day in the old Burbank Field. The Carter Oil Co.'s No. 1, SW cor. NW, Section 13-27-5, was good for 350 bbls. after a 135-quart shot from 2,956 to 3,014 feet. Top of sand and first oil came at 2,939 feet. Same company's No. 4, SE cor. NW, same section, made only 160 bbls. from sand topped at 2,948 feet, with oil pay at 2,958-3,019 feet, following a shot of 110 quarts. No. 7, C NE SW NW, same section, was treated with 110 quarts after making only 15 bbls. natural from sand at 2,947-3,011 feet, first oil at 2,965 feet, and responded with 250 bbls. afterward.

The Phillips Petroleum Co.'s No. 1, SW cor. NE, Section 14-27-5, was a 75-bbl. well after a 110-quart shot in sand at 2,985-3,040 feet. Same company's No. 5, CWL NW SW NE, same section, increased from 100 bbls. natural to 250 bbls. when shot with 100 quarts in the oil pay from 2,998 to 3,042 feet.

COOPER



Why Am I So Strong For Cooper Engines?

Well sir, I have been in the oil game since early in the nineties and I have seen engine designs go from bad to worse until you could count the survivors on the fingers of one hand. The Cooper Company was one of them and following their leadership the designs gradually grew better until six years ago when they brought out their 80 and 160 B.H.P. four-cycle units. Although pioneers with the four-cycle direct connected type of compressor unit they have constantly improved it and developed a demand which has forced other engine builders to offer the same type of engine. I am using the present type of Cooper engine and know how accessible and reliable it is. That is the reason for my preference.

The question was asked by one of our competitors at the recent Petroleum show in Tulsa. The man who answered is an intelligent, experienced, unprejudiced engineer in charge of mid-continent activities for one of the larger companies. We will give his name and address to anyone interested.

The C&G COOPER CO.
Mt. Vernon, Ohio
504 Kennedy Bldg., Tulsa, Oklahoma
Since 1833 Engineers and Builders

ENGINES

No. 6, C NE SW NE, same section, was good for 125 bbls. after a 120-quart shot. First oil was found at 2,995 feet and total depth was 3 050 feet.

The Carter Oil Co.'s No. 16, SE cor. SW, Section 16-26-6, which was a 160-bbl. natural producer, jumped to 600 bbls. when shot with 110 quarts in the oil sand at 2,940-97 feet. This company's No. 12, CSL SE SW SE, same section, was drilling at 790 feet.

The Cosden Oil & Gas Co.'s No. 5, CSL SW SE SE, Section 17-26-6, was good for 500 bbls. following a 130-quart shot in sand at 2 887-2,957 feet.

The Laurel Oil & Gas Co.'s No. 4, CNL NW NE SW, Section 4-27-5, was swabbing and flowing about 50 bbls. following a 30-quart shot in sand at 2,891-2,908 feet. Same company's No. 5, CNL NE NW SW, same section, which was originally good for 620 bbls. natural from sand at 2,891-2,900 feet, with total depth at 2,908 feet, was at latest report making 305 bbls. 3 per cent of which was b.s., and there was some water showing.

The Phillips Petroleum Co. and Skelly Oil Co.'s No. 12, CEL SE NE SE, Section 26-27-5, topped the sand at 2,935 feet, found oil at 2,960-93 feet and with total depth at 2,999 feet was shot with 90 quarts making 45 bbls. afterward.

The Phillips Petroleum Co.'s No. 1, SW cor. NE, Section 18-27-6, was good for 100 bbls. after a 100-quart shot in sand at 2,930-65 feet. Same company's No. 2, CSL SE SW NE, same section, made 300 bbls. the first 14 hours and 240 bbls. the next 24 hours after it was shot with 110 quarts. Sand was reached at 2,940-80 feet and the hole was drilled 3 feet deeper.

Kay County

In northern Kay County, the Comar Oil Co. had a rig in place for its No. 1 McCormick, NW cor. SW SE, Section 21-29-1w.

North of the Tonkawa area, the Marland Refining Co. abandoned its No. 1 Vandever, NW cor. Section 21-27-1w, as dry at 3,662 feet.

In the Thomas Field, the Marland's No. 1 McCullough was runnuing tubing to pump after dropping from 900 bbls. to nothing and making some water. It is located in the CNL SW, Section 12-26-2w. The Magnolia Petroleum Co. had a rig on the ground for its No. 1, NW cor. NE NW, Section 13-26-2w.

The Amerada Petroleum Corp.'s No. 40 Woods, NE cor. NW NE, Section 34-25-1w, had a rig built.

Some new ones started by the Comar Oil Co. include No. 8-W Blubaugh, NE cor. SW, Section 2-24-1w, which was drilling at 101 feet; No. 5-W Blubaugh, NE cor. NW SW, same section, which was rigging up; No. 8-W Gaume, SW cor. NE, same section, which was rigging up; No. 12-W Gaume, CSL SE SW NE, same section, had a rig in place; and No. 15 Gaume, CSL NE, same section, an old well, with former total depth of 2,550 feet, was rigging up.

Tulsa County

In western Tulsa County, the Darby Petroleum Co.'s No. 1, NE cor. Section 13-19-10, was plugged as a duster at 2,650 feet. John A. Steel had a rig up for his No. 2 Lindsey, CEL SE SE NW, Section 4-19-10.

Bradstreet and others were drilling at 400 feet in their No. 1, NW cor. Section 26-17-12.

In the southern part of the county, Suppese & Noble were building a rig for No. 1 Bertholf C NW NW, Section 31-17-13. The Frates Oil shot its No. 2 Kraser, CEL NE NE SW, Section 1-17-14, with 20 quarts in sand at 1,283-92 feet, making it a 35-bbl. well. T. B. Slick also shot his No. 1 McHenry, SW cor. NE, same section, with 30 quarts in sand at 1,286-97 feet and the result was a 50-bbl. producer.

Okfuskee County

Northeast of Okemah in Okfuskee County, Blakely and others' No. 1 Harjo, NW cor. NE, Section 23-12-10, had hard luck and was skidding the rig at 2,210 feet. Burke & McMahan had what looked like a 400-bbl. well in their No. 1 Fisher, SW cor. NE, Section 36-12-10, 2 feet in sand topped at 3,026 feet.

The Josey Oil Co. had a rig built for No. 1 Fields, SE cor. NE NE, Section 32-12-11, and was spudding its No. 1 Hussey, SE cor. NE, same section.

Hartman was drilling at 460 feet in his No. 1 Sears, NE cor. Section 5-11-11.

A brand new test for southwestern Muskogee County was under way. It is Fike & Clatt's No. 1, SW cor. SE SW, Section 24-12-19, and was drilling at 750 feet.

In McIntosh County also Montague Texas' No. 2 Blood, SW cor. NW NW, Section 2-12-16, was fishing at 900 feet.

Okmulgee County

Brock & Vierson's old well, No. 1 Thomas, SE cor. NW SE, Section 2-13-12, was making 5,000,000 feet of gas from sand at 2,637-53 feet. King & Jackson's No. 2, SE cor. NE SW, same section, another old well, was producing 6,000,000 feet of gas from sand at 2,760-77 feet. Logan & Wallace abandoned their No. 5 Morton, SE cor. SW NE, Section 8-13-12, as dry at 2,401 feet. The Amerada Petroleum Corp. had a rig up for No. 1 Larney, NE cor. SE, Section 32-13-12.

J. J. Rebold got down only 100 feet inn his No. 1 Vincent, SW cor. NW, Section 6-13-11, and had to skid the rig.

B. Morgan shut down his No. 1 Kanard, SE cor. NE, Section 13-11-13, at 1,050 feet.

Creek County

In northwestern Creek County, the United States Oil Co. shut down its No. 1, SW cor. SE NW, Section 13-19-8, at 200 feet.

In the northeastern part, the Oklahoma Producing & Refining Corp.'s No. 1 Colbert, CSL SE NE, Section 30-18-10, was abandoned as dry at 3,096 feet. The Sapulpa Fuel Co. also abandoned its No. 2 Smith, NE cor. SE, same section, as a failure at 2,980 feet.

In the Mounds Townsite, the Henry Oil Co. & Shuler's No. 1, Lot 17, Block 22, Section 8-16-12, topped the sand at 1,995 feet and while drilling at 2,020 feet was making 6 bbls. an hour. L. P. Gowland plugged his No. 1, Lot 3, Block 26, as dry at 2,058 feet after a 20-quart shot and failed to get results. The Antlers Oil Co. was drilling at 750 feet in its No. 1, Lot 12, Block 22. Jones & Cravens were rigging up tools on their No. 1, Lot 7, Block 21. The Noble Oil & Gas Co.'s No. 4, Lot 10, Block 24, was good for 40 bbls. after a 40-quart shot in oil sand at 2,016-95 feet. The Riverland Oil Co. also had an oil well making 180 bbls. following a shot of 40 quarts in pay sand at 2,365-78 feet. It was No. 11 Marshall, SW cor. SE SE, Section 8.

Stout and others were spudding their No. 1, Lot 13, Block 21, CSL SW NE SW, Section 8. Humphrey Stover abandoned No. 2, Lot 19, Block 36, at 2,395 feet. Suppes Brothers were drilling at 1,400 feet in their No. 1, Lot 8, Block 27, NE cor. SE SW, same section. Same interests' No. 1, Lot 12, Block 23, C NW SW SE, was good for 50 bbls. following a 20-quart shot in sand at 2,049-2,137 feet. West & Hancock's No. 2, Lot 1, Block 23, same section, found sand at 2,000-90 feet that made 100 bbls. after a 40-quart shot.

South of Mounds

South of Mounds, Fox & Ireland abandoned their No. 3 Maxwell, NE cor. NW NE, Section 17-16-12, with a hole full of water in sand at 2 380-2,406 feet. R. D. Hartman and others had a fishing job at 1,820 feet in their No. 1 Taylor, C NE SW SW, Section 17-16-12. J. W. Holden's No. 1-A Tiger, CEL SE SE NE, Section 24-16-12, was rigging up tools.

The Oklahoma Natural Gas Co. had a rig up to deepen its old well, No. 1 Emarthla, SE cor. NW, Section 6-15-[illegible] with present total depth of 3 033 feet. The Prairie Oil & Gas Co. had 2,000 feet of oil in its No. 3 Mitchell, SE cor. NW SE, Section 17-15-8, from sand at 3,728-40 feet. Buel & Bartlett were fishing for 8-inch casing in their No. 1 Narchubby, NE cor. NW NW, Section 26-15-8, with a 10-bbl. showing in sand at 2,804-46 feet. The Little Fay Oil Co. found water and b.s. at 3,354 feet and plugged back to sand at 3 348-50 feet in its No 3 Marshall, SW cor. NW NE, Section 30-15-8. It was making 3,000,000 feet of gas.

Emery & Sons had a 30-bbl. natural well in their No. 6, SE cor. NW, Section 2-14-8. Oil sand was from 2,457-83 feet and total depth 2,487 feet.

The Cumberland Oil Co.'s No. 1 Friday, SW cor. SE SW, Section 22-15-10, was drilling at 500 feet. The Wolverine Oil Co.'s No. 5 Clark, SE cor. SW SW, Section 22-15-10, was shot with 40 quarts and made 60 bbls. afterward. Sand record was 2,691-2,722 feet.

Billingslea & West abandoned their No. 3 Mayes, NE cor. SE, Section 22-14-9, as a failure when they encountered water at 945-970 feet.

Madden & Madden were spudding their No. 1, SW cor. Section 13-17-8. The Carter Oil Co. was spudding its No. 1 Hamilton, SW cor. SE NW, Section 32-17-8.

Cameron and others were drilling their No. 1 McDermott, CEL NE NW, Section 9-16-9, at 300 feet. O. R. Howard's No. 5 McNac, NW cor. NE, Section 16-16-9, was good for 160 bbls. natural. 10 per cetn water from sand at 3,043-57 feet. The Nowata Oil & Refining Co.'s No. 1 McNac, NW cor. NE SW, Section 16-16-9, was a 360-bbl. natural well from oil sand at 3,037-45 feet.

The Phillips Petroleum Co.'s No. 1 Penn, SE cor. NW, Section 24-14-9, which was recently deepened and increased to 594 bbls. from sand at 2,935-72 feet, was still making 470 bbls. daily at latest reports. F. R. Billingslea had a rig on the ground for No. 1 Mieve, CEL NE NE, Section 28-14-9. The Cosden Oil & Gas Co. abandoned its No. 1 McIntosh, SW cor. SE, Section 28-14-9, as dry at 3.962 feet.

The Josey Oil Co. was spudding in No. 1 Bear, SW cor. Section 16-14-10. Donnelly & Hall topped the Dutcher sand at 2,873 feet in their No. 1 Peters, C NE SE NW, Section 17-14-10, and then shut it down for casing with the hole half full of oil. Hall and others' No. 1 Johnson, NE cor. SE SW, same section, made 600 bbls. natural the first 24 hours from sand at 3,392-96 feet, and at latest gauge was pumping 250 bbls. C. F. Noble was spudding No. 1 Cooper, C NE NE NW, Section 20-14-10, and H. F. Wilcox Oil & Gas Co. had a rig on the ground for No. 1 Scott. NE cor. SE NE, same section. The Waite Phillips Co. had a rig on the ground for No. 1 Harjo, SE cor. NE NE, Section 31-14-10. The Empire Gas & Fuel Co. had a rig up for No. 1 Mitchell, SW cor. NW NW, Section 32-14-10.

The Shaffer Oil & Refining Co.'s No. 2 Ross, NW cor. SW, Section 13-19-8, found oil sand at 1.569-80 feet, making 16 bbls. natural in the first 24 hours.

Stroud Field

On the Creek County side of the Stroud Field, the Tidal Oil Co. and Gowland's No. 1 Coyarkah, SW cor. NW SW, Section 6-14-7, was plugged as a failure at 4 222 feet. The Roxana Petroleum Corp.'s No. 3 Coyarkah, NW cor. SW SW, same section, was good for 60 bbls. after a 30-quart shot in sand at 4,105-

(Continued on Page 105)

Kansas Oil Field News

By C. D. Lockwood

The bringing in of another well in the Kors Pool, Independence district of Montgomery County, estimated good for 1,000 bbls., and the prospect of opening another Wilcox sand pool about 5 miles north of this area, were the outstanding features of the week in the eastern Kansas fields, while some attention was directed toward Winfield, where a new well apparently had a good showing in the Winfield Pool, 2 miles east of the city.

The new producer in the Kors Field was Hazlett, Allman and others' No. 1 Zutz, CNL NW NW, Section 13-33-16, about 6 miles southeast of Independence and a direct south offset to the discovery well. It topped the sand at 1,381 feet and was estimated good for 1,000 bbls. The discovery, No. 1 Thompson, across the road to the north, came in September 1 for 790 bbls. in the first 24 hours from sand at 1,377-78 feet, and was at latest report making 250 bbls. on the pump. Sincox and others were drilling their No. 1 Thompson, NW cor. SW NW, Section 13-33-16, at 550 feet. J. R. Thompson had a rig up for his No. 1 Lincot, NW cor. SE, Section 17-33-16. Harwood and others also had a rig up for their No. 1 Good, SW cor. SE NE, Section 12-33-16. Kors and others were drilling at 550 feet in their No. 1 Zutz, NE cor. Section 14-33-16 and at 450 feet in their No. 2 Thompson, SE cor. SW SW, Section 12-33-16, a location east of the discovery.

R. G. Gillespie shut down his No. 1 Tanner, CSL NE, Section 9-33-16, at 1,448 feet.

Talbot and others had a rig up for their No. 1 Farlow, SE cor. SW SE, Section 31-33-15.

Reed & King shut down their No. 1 Ringle, NW cor. SE, Section 16-32-16, at 1,230 feet.

The new Wilcox Pool that may be opened is due to the Coffeyville Vitrified Brick & Tile Co.'s No. 1 Bellars, in Section 3-33-17. It was shut down at 1,304 feet to run pipe, having been drilled without casing in the hole, and had a showing of oil.

Cowley County

Near Winfield in Cowley County, the Marland Refining Co. and others were spudding their No. 1 Lierman, SE cor. SW, Section 13-32-4. The J. A. Hull Co.'s No. 1, SE cor. SW NW, Section 24-32-4, was swabbing and flowing about 130 bbls. following a shot of 150 quarts in sand at 2,304-41 feet, and was being cleaned out. Day & Bunnell spudded and shut down their No. 1 Weir, NE cor. NW SE, Section 31-32-4.

The newest well in the 3,000-foot pay in this pool is the Buffalo Trust Co. and Emerald Oil Co.'s No. 7 Kukuk, SW cor. NE, Section 24 32-4. It topped the gas sand at 2,996 feet, good for 5,000,000 feet of gas, and encountered oil at 3,003 feet. It was drilled 6 feet in before shutting down to move the boiler back and put 156 bbls. in the tanks in 12 hours. It was to be completed early in the week. This well is two locations north of the discovery well in this sand depth.

T. B. Slick's No. 1 Carson, SW cor. NE, Section 19-32-3, was shut down for orders at 3 095 feet at 5 feet in sand with a 20-bbl. show.

Several new wells are due in the Rainbow Bend Pool soon, and one of them should be in early in the week. It is Waite Phillips Co. and others' No. 1 Dora Johnson, NW cor. NE SE, Section 20-33-3.

In Sumner County, the Alcorn Oil Co.'s No. 1 Padgett, NW cor. SW; Section 23 24-2e, was shut in as a 25,000,000 foot gasser in sand at 3,455 feet.

The Prairie Oil & Gas Co. abandoned a Rice County hope when its No. 1 Wernet, SW cor. SE SW, Section 14-20-6w, was plugged at 3,085 feet. In the same township, however, the Midland Oil Co. had a rig up for its No. 1 Johnson, SE cor. SW SW, Section 26-20-6w.

Near Sylvan Grove, in Lincoln County, the Trees Oil Co. plugged its No. 1 SE cor. SW, Section 36-11-10w, as dry at 3.507 feet.

In Rooks County, the Marland Refining Co. had a rig on the ground for its No. 1, C NW NW SW, Section 30-6s-17w.

Across the line in Phillips County, Good & Craise were building a rig for their No. 1, C NW NW NE, Section 18-5s-18w.

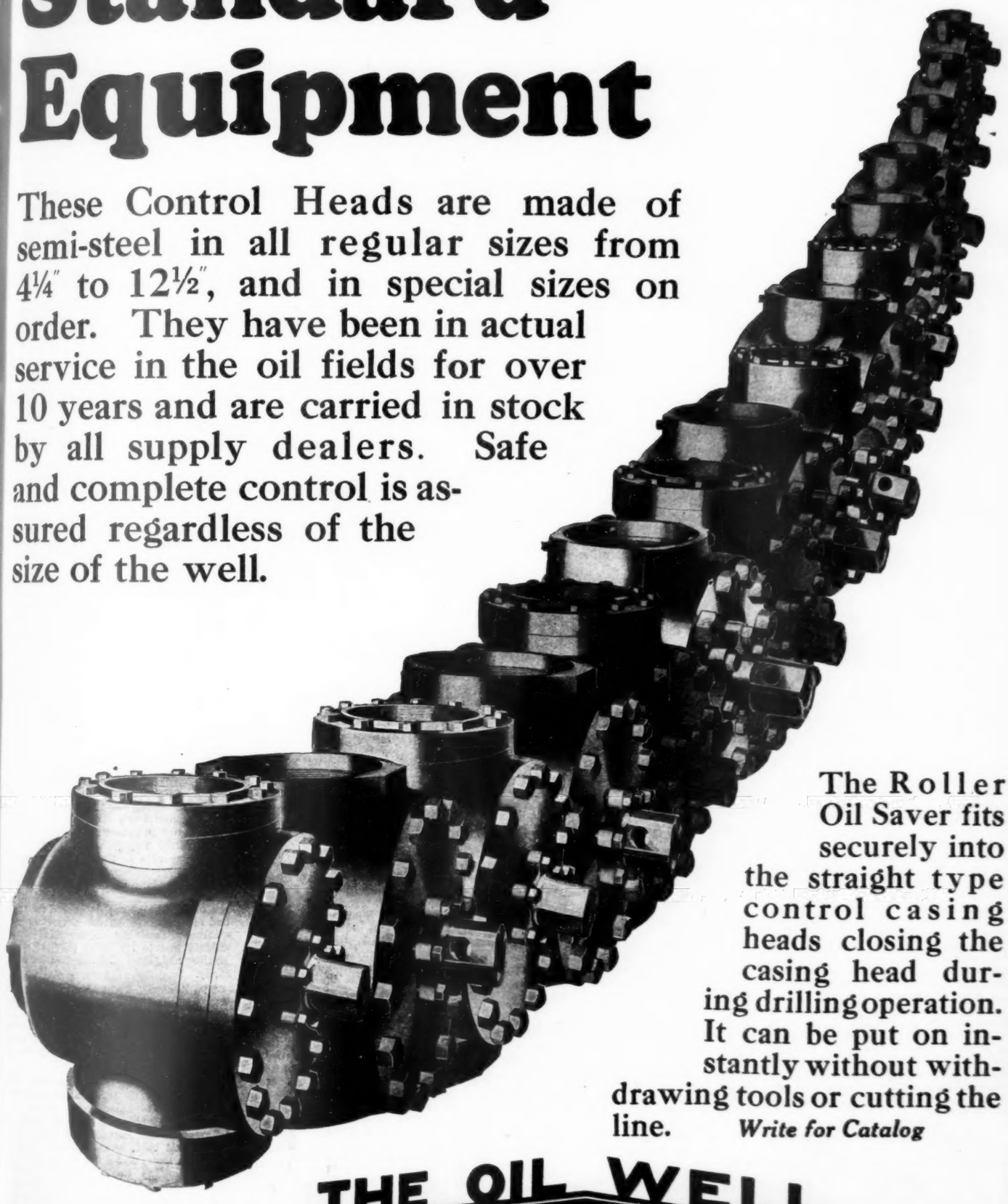
In southeastern Marion County, the Phillips Petroleum Co. was drilling its No. 1 Bennington, SW cor. NW SW, Section 30-22 5, at 580 feet.

The Leeward Petroleum Co. had a rig built for its No. 1 Riggs, NE cor. SE SW, Section 31-20-4.

Northwest of El Dorado in Butler County, the Vickers Petroleum Co. rigged up and shut down its No. 1, SE cor. SW, Section 32-24-4.

Standard Equipment

These Control Heads are made of semi-steel in all regular sizes from 4¼" to 12½", and in special sizes on order. They have been in actual service in the oil fields for over 10 years and are carried in stock by all supply dealers. Safe and complete control is assured regardless of the size of the well.



The Roller Oil Saver fits securely into the straight type control casing heads closing the casing head during drilling operation. It can be put on instantly without withdrawing tools or cutting the line. *Write for Catalog*

THE OIL WELL IMPROVEMENTS CO.
Tulsa, Okla.

Rocky Mountain Area

By F. B. Taylor

Oil strike made on east side of Teapot Dome on outskirts of Salt Creek Field at depth of 850 feet. Three wildcats in Colorado show water in Dakota formation where oil was expected. Producing formation found by Midwest on Iles Dome now believed to have been a stray sand.

CASPER, Wyo., Oct. 11. — The Ohio Oil Co.'s test on the Hidden Dome in the Big Horn Basin is drilling at 1,000 feet and attracting considerable attention. This structure is located in Township 47-91, east of the town of Worland about 15 miles, and was developed as a gas field several years ago by the Ohio, the gas being pipe by the Midwest to Greybull, where it is used for fuel for the refineries and also to furnish gas for several cities along the route.

For a time it was considered that the Hidden Dome contained gas only as the Ohio drilled some five wells and all proproduced gas. Later examinations, however, and close study of the faults on the structure give a chance for one side containing oil and this well now being drilled by the Ohio is testing this theory. The hole has passed the Cretaceous and is in the upper part of the Carboniferous so that the oil production, if found, will be black crude. The sands that are expected to be tested are the Embar and Tensleep and possibly the Amsden under the Tensleep. Should the Hidden Dome prove oil bearing it would mean a big drilling campaign in the Basin country for the Torchlight, Lamb Dome and several other structures would be drilled to the lower horizons.

The Ohio has production in the Amsden in the Grass Creek Field in the Big Horn Basin and there are several fields in that part of the State producing black oil from the Embar and Tensleep.

Oil Men Optimistic

The Wyoming oil men are predicting a rise in the oil market in November and that a shortage of crude will be felt next month. Up to the present the general opinion here has been pessimistic, but during the past week it has changed considerably and some even predict an active winter due to calls for crude. A large demand for black oil is also predicted for next year on the strength of the paving contracts being made over the country and also for road building in the country districts. The Standard of Indiana at Casper is prepared to refine black oil now in the new asphalt plant built last summer here and the Wyoming oils of this kind make exceptionally good grades of asphalt that seem to have better binding and lasting qualities than the asphalt from crudes in other parts of the country. There are several black oil fields in Wyoming shut down at present with storage full of this grade of crude and no market for same and also there are points where asphalt can be had in the crude state. About 12 miles north of Lysite, in Fremont County, there are seepages for several miles along the base of the Copper Mountains where asphalt is brought to the surface by water and can be had for the trouble of gathering it on the ground.

In Colorado Fields

In the Colorado fields, three wildcats have reported water in the Dakota formation where oil was hoped for. The Ohio Oil Co. got a water flow in the Dakota in the test being drilled near Boulder, on Section 28-2-70 on the Haystack structure, but the bit is to go on down to test the Morrison. The same company found water in the Dakota in the Pueblo wildcat drilling outside that city and will also drill deeper to test the lower horizons. The Boulder well is now at 3,400 feet and the Dakota sand in the Pueblo well was found at 1,025 feet. On the Columbus Heights Dome in Pueblo County where the Union of California is drilling a wildcat, this well also found water in the Dakota and then found another flow in the Morrison sand and the well will be abandoned as a duster.

These three wells were a keen disappointment to the oil operators of Colorado and Wyoming for it was considered very likely that both the Union's and the Ohio's wells at Pueblo would come in producers in the Dakota. The structures were worked out carefully and especially the Ohio's location near Pueblo was thought to be excellent for a Dakota pool. Hope is still held out that production will be found in the Morrison.

The Standard Oil Co. of California is drilling a test to the Morrison sand north of Eads on Section 19-16-48 in Cheyenne County. This is close to the east boundary of Colorado and about 40 miles from Kansas. This well has also found water in the Dakota but is drilling at 1,320 feet.

The Embar and Tensleep does not exist in Colorado as it does in Wyoming for when these sands were deposited in Wyoming the greater part of Colorado was above the sea level, but was submerged again to receive the deposition of the Red Beds and the Cretaceous strata.

Stray Sand at Iles Dome

The Midwest well on the Iles Dome that was reported a producer and later began to show water with the oil, has been drilled through the sand and it is now considered that the sand making the oil was a stray and that the well is not yet in the Dakota, this has raised the hopes of the operators again in the Moffat Field and the well is to be drilled on down to the Dakota sand at once. The hole is now 2 657 feet and has a string of pipe in the bottom that must be fished out before drilling proceeds.

A pipe line from the Lance Creek Field in Niobrara County, Wyoming, to Casper is in prospect. The Sunset Oil Co. of California with holdings in that field has also taken over the holdings of the Union of California and is reported to be considering such a line. This proposed line would also supply gas to Orrin Junction, Keeline, Lost Springs, Manville, Douglas and Glenrock along the route.

In the Salt Creek Field, the Midwest Refining Co. completed only four wells the past week. The Mountain & Gulf completed a small well estimated at 15 bbls. on Section 12-40-79 to the second Wall Creek sand at 2,310 feet, and the Midwest Oil Co. found another small producer on Section 26-40-79 at 1,207 feet in the shale that is estimated at 15 bbls. The Wyoming Associated Oil Co. completed a producer on Section 34-40-79 good for 20 bbls. at a depth of 1,645 feet and the same firm also completed a 15-bbl. well on Section 23-40-79 at 1,480 feet.

The deep well on the Neiber Dome in Washakie County in the Big Horn Basin is a duster and will be abandoned at 4,325 feet. This well was expected to reach the Frontier sands about 3,500 feet, but after passing that level the drill never found any sand at all and the hole was completely lost so far as the geologists were concerned. No one could say where the sands would come in so after reaching the above depth the well was ordered abandoned and a dry hole recorded. The well does not stand as a test of the Neiber Dome, however, for the sands must lie at some point below the bottom of the hole and may contain oil.

The producers & Refiners' deep well in Carbon County is another deep test still drilling in Wyoming and this is the deepest well on record in this State so far. This well has also "lost" the strata and is still in shale without definite knowledge as to the exact location of the expected sands. The Producers & Refiners' well is about 6,000 feet and making hole slowly.

The wildcat at Casper on Section 23-33-79 is drilling at 550 feet in the Steele shale and has shut off the surface water with the 20-inch casing. Another test is proposed to be drilled this fall south of the city limits about 5 miles.

The wildcat started last year on Salt River on the west slope of the Continental Divide in Sublette County by a syndicate of Pittsburgh, Pa., people is to start drilling again in the near future. The hole has been standing at 1,200 feet.

Runs for the Past Week

Salt Creek	71,890
Teapot	2,250
Big Muddy	3,640
Grass Creek	3,160
Elk Basin	1,000
Greybull	20
Rock River	3,400
Rex Lake	40
Lance Creek	1,360
Notches	230
Poison Spider	900
Osage	330
Hamilton Dome	1,580
Mule Creek	470
Lander	360
Byron	80
Pilot Butte	60
Lost Soldier	5,910
Ferris	110
Cat Creek	3,840
Sunburst	5,275
Craig	1,350
Miscellaneous	630
Total	107,885

In Salt Creek Field

The Marine Oil Co. has two producers in the Salt Creek Field, the Mosher No. 4 on Section 16 39-78 has been cleaned out and is swabbing 300 bbls. from the second Wall Creek sand at 2,737 feet, and the Taylor No. 8 on Section 20-39-78 is good for 200 bbls. at 2,745 feet from the second Wall Creek after a shot of 100 quarts. The same firm is drilling at 1,980 feet on the Wyokans lease in that field and has the third well in the Pilot Butte Field in Fremont County at 785 feet and in gray shale. The second well reported a producer a short time ago has been put on the pump and is making 85 bbls. daily.

Another well is proposed to be drilled on the Sheldon Dome northeast of Pilot Butte and about 4 miles from the Maverick Springs Field. This structure has had two wells drilled to date, the first hole showed for about 12 bbls. with considerable gas in the first Wall Creek sand and the second well was a dry hole.

Monthly Runs from Fields

Salt Creek	3,410,490
Teapot	70,300
Big Muddy	114,110
Grass Creek	95,990
Elk Basin	30,290
Greybull	1,000
Rock River	120,790
Lance Creek	54,040
Poison Spider	25,480
Osage	10,160
Hamilton Dome	24,000
Mule Creek	20,580
Notches	6,360
Lander	7,710
Byron	5,[illegible]
Pilot Butte	1,[illegible]
Lost Soldier	[illegible]
Ferris	[illegible]
Rex Lake	2,[illegible]
Craig	[illegible]
Cat Creek	92,[illegible]
Sunburst	113,[illegible]
Miscellaneous	133,[illegible]
	11,[illegible]

Strike in Shannon Sand

A strike of special importance to holders of lands on the outskirts of the Salt Creek Field was made in the Burke well, Section 35-39-78 this week on the east side of Teapot Dome. The well is making about 30 bbls. from the Shannon sand at 850 feet.

The Shannon sand in the Salt Creek area forms the inner escarpment of the Salt Creek Field, but in the Teapot it is lower and does not appear on the surface. This sand was primarily responsible for the discovery of Salt Creek for it was found oil bearing on the north end of the field in the early days and this first development resulted in the opening of a pool about two square miles in area and around 900 feet deep. Then the operators discovered the deeper sands in the field and the shallow development was abandoned for the larger production in the Wall Creek sands. The old Shannon wells are still standing with tubing and jacks and could still produce if wanted. The average production is estimated at 5 bbls. per well.

The Burke well is at the other end of the field from the Shannon Pool and it has been held by many geologists who have studied the Salt Creek area that before the erosion took place that uncovered and washed away the Shannon and Parkman escarpments in the central part of the structure, these sands contained oil as the Wall Creek sands do now. In the Teapot the Shannon sand has shown water at several points, but through faulting, it is considered likely much oil could be held in this sand at different points on the Teapot Dome where fault planes which are numerous, would trap the oil in its migration.

The cost of drilling to the Shannon sand would be small compared to the present costs of drilling to the Wall Creek sands. To reach the Shannon sand a well could be put down with drilling machines instead of rigs and start with a 10-inch hole; this would be carried to shut off surface water and cave and then an 8-inch hole could be carried to within 100 feet of the sand where the 6⅝-inch hole would be used to drill into the sand. The cost of a well in the second Wall Creek sand at Salt Creek at present is about $25,000, but a Shannon sand well is estimated about $1,200.

Sunburst Suit Settled

The International Refining Co. at Sunburst, Mont., filed a complaint with the Montana State Railroad Commission against the Illinois Pipe Line Co. alleging that the Illinois was not fair in its demurrage rate to the refining company. The refinery company charges that it ordered the pipe line company to deliver 5,000 bbls. daily to the refinery and that the pipe line did not do so and therefore had no right to charge demurrage. A statement from the Casper office of the Illinois was to the effect that the whole matter had later been settled satisfactorily.

The Sunburst Field completed only one well and that a small producer, on the SW of Section 32-35-1 far over on the east side of the field. This well was drilled by the Kewanee Oil Co. and after shooting the Ellis sand at 1,470 feet it was estimated at 7 bbls.

The State Railroad Commission also made public the information that the Sunburst Field shipped out during August, 136,091 bbls. of crude delivered as follows: To the Imperial Oil Co. of Canada, 69,931 bbls., to the Alberta Refining Co. of Canada, 837 bbls., to the International Refining Co., 4,072 bbls., to the Mutual Oil Co., 6,383 bbls., to the Kalispell Oil & Refining Co., 251 bbls., to the Standard Refining Co., 1,193 bbls., to the Sunburst Refining Co,. 25,473 bbls., and to the Ohio Oil Co., 30,617 bbls. The field price was 90 cents per bbl. for the month of August and on the first of Sep-

(Continued on Page 105)

Those pumps

What are they costing you?

Too bad your pumps can't be hooked up to a cash register. Then you would know how frequent shut-downs, repacking, scored rods, and rod-pitting are building up costs.

Monel Metal pump rods will reduce these costs, for Monel Metal develops a mirror-like, practically frictionless surface that protects packing and operates smoothly. Its immunity to rust, and its corrosion-resisting properties prevent rod-pitting when pumps are shut down, and these same properties prevent deposits in packing which eventually impair both rod and packing.

The economy of Monel Metal pump rods is a proven fact. The U. S. Navy, many large oil refineries, and industrial plants everywhere, have adopted Monel Metal as standard.

You will, too, after you have given it a test.

Write distributor nearest you for details of our special money-back trial offer

Whitehead Metal Products Company,
67 Washington Street North, Boston, Mass.
Whitehead Metal Products Company
of New York, Inc.
261 Canal Street, New York
Branch House: 725 Arch Street, Philadelphia, Pa.
Branch House: 215 Frelinghuysen Ave., Newark, N. J.
Williams & Company, Inc.
901 Pennsylvania Avenue, Pittsburgh, Pa.
J. M. Tull Rubber & Supply Company,
150 Marietta Street, Atlanta, Ga.
Steel Sales Corporation,
129 South Jefferson Street, Chicago, Ill.
Branch House: 843 Book Bldg., Detroit, Mich.
Edward Schwartz Mill Supply Co., Inc.
620 Toulouse Street, New Orleans, La.
Eagle Brass Foundry Company,
21 Spokane Street, Seattle, Wash.
Pacific Foundry Company,
Harrison and 18th Streets, San Francisco, Cal.
Robert W. Bartram,
129 Duke Street, Montreal, Province Quebec

SEND FOR "LIST B" OF AVAILABLE LITERATURE

THE INTERNATIONAL NICKEL COMPANY
67 WALL STREET, NEW YORK CITY

INCo

Monel metal

Gulf Coast Oil Operations

By P. L. McGreal

Vacuum Oil Co.'s No. 1 Miller flowing 2,300 bbls., 15 per cent water and sediment. Putting down two deep tests northeast and northwest and rigging an offset. Gulf Production-Snowden & McSweeney well in Big Creek, Fort Bend County, pinched in, waiting for line being laid from Blue Ridge.

HOUSTON, Tex., Oct. 13.—The Vacuum Oil Co.'s No. 1 Miller, the discovery well in Calcasieu Parish, Louisiana, in the Rein Lake section, or marsh, near Lake Charles, is making an increasing percentage of water and sediment. Early in the week it was showing 15 per cent sediment and water, flowing 2,300 bbls. of fluid, with a temperature of 95 degrees and operators are wondering if it will go the way of the Edgerly (La.) Pool, 10 miles distant. The well came in September 8 and is therefore one month old. It was rated at 3,000 bbls. initially, temperature 86 degrees, gravity 23.5, getting the sand at 3,875 feet. Five days later the flow had increased to 4,200 bbls. and when opened showed 5,200 bbls. for a time. It was eventually pinched down to 3,000 bbls. The Vacuum Oil Co. is now drilling two deep holes northeast and northwest from the producer and rigging an offset. Two more old holes, one on the Gray and another on the Lockport Lumber Co. lands will be drilled deeper. The Marland Oil & Refining Co. has entered the new pool with a location 1 mile south of the discovery well. The offset location mentioned is 1,000 feet southwest of the well. Operating in the marsh is costly. It is necessary to put the derricks on piling and build plank roads through the swamp in order to get the machinery on the location.

Big Creek Waiting Line

The Gulf Production-Snowden & McSweeney No. 14 Davis at Big Creek in Fort Bend County is pinched down to 1,200 bbls. waiting for a line being laid from Blue Ridge. The Gulf-Snowden & McSweeney jointly now have producers there in Nos. 3 and 4 Wheat and Nos. 6, 9, 12, 14 and 15 Davis. The pool was opened in December, 1922. The Texas Co. is rigging No. 1 Fee, 1,000 feet south from No. 14 Davis, and Rich and others are rigging No. 2 Ahlers. The Union Sulphur Co. is starting five sulphur tests there and is reported to have acquired the sulphur rights from the Gulf-Snowden & McSweeney interests for $1,000,000 and on The Texas Co.'s 300 acres in fee for $250,000. The terms of the transaction are unknown.

It was a dull week in the other pools, most of the completions showing a large percentage of salt water. The Edgerly Petroleum Co.'s No. 2 Vincent in the Vinton (La.) Pool is an exception. It came in Thursday at 3,350 feet, after being deepened, and started flowing 2,000 bbls. of oil.

In the Coastal region the wells completed during the week total 17, of which 7 are worked-over holes. The new production aggregates 3,650 bbls. with 3 wells abandoned and one salt water hole. Four tests are bailing at the close of the week.

Daily Average Gross Production

The estimated daily average gross production in the Coastal region for the week is placed at 85,770 bbls., compared with an estimate of 85,170 bbls. last week. The estimate for the outhwest fields is placed at 36,630 bbls., against 36,895 bbls. last week. The estimate for each district is as follows:

District—	Gross Bbls.
Batson	1,585
Blue Ridge	875
Barber Hill	135
Big Creek	1,500
Dayton	95
Damon Mound	1,300
Edgerly (La.)	485
Goose Creek	12,250
Humble	6,500
Hull	17,400
Jennings (La.)	770
Markham	130
Orange	11,000
Pierce Junction	300
Spindletop	1,035
Saratoga	1,605
Sour Lake	4,520
Vinton (La.)	5,600
Welsh-Anse La Bute (La.)	85
West Columbia	16,500
*Miscellaneous	2,100
Total	85,770

*Vacuum well in Louisiana credited with 1,900 bbls. oil; Nacogdoches, High Island, Big Hill, Hockley combined with 200 bbls.

Southwest Fields—	
Luling	29,000
Laredo	4,025
Somerset	2,560
Calliham	595
Rockdale-Minerva	450
Total	36,630
Grand total	122,400
Grand total last week	122,065
Increase	335

The Humble Oil & Refining Co.'s No. 56 Smith on the east side of the Goose Creek Pool, which came in last week making 1,500 bbls. pinched in at 4,125 feet, averaged 1,000 bbls. choked down during the week. It extended the producing area about 1,500 feet north and east. The Sun Oil Co.'s No. 8 Smith is pumping 10 bbls. at 2,875 feet and the Gulf Coast-United Central Oil Corp.'s joint No. 31 Galliard will make a pumper at 2,875 feet. The Gulf Production Co.'s No. 11 Smith is making 300 bbls. ,70 per cent sediment and water at 1,550 feet.

It is the third shallow sand completion within two months. The other two are better wells. Allen & Marshall No. 1 Gillette is resetting screen at 2,100 feet.

Th Gulf Co.'s No. 21-A Wright is drilling below 4,000 feet and No. 22 at 1,530 feet. No. 8 Chapman-Bryan is around 1,405 feet. No. 4 Hirschi is below 3,355 feet. The Humble Oil & Refining Co.'s No. 59 Smith is drilling at 3,415 feet. No. 2 Tabb is deepening. The Southern Exploration Co.'s No. 6 Wright is at 1,565 feet and No. 8 is at 1,523 feet. The Inca Production Co.'s No. 2 Duke is rigging. No. 1 Duke has been put on the beam, pumping 150 bbls. per day. The Copeland Oil Co.'s No. 6 Bryan is showing oil at 3,250 feet. The Howard Oil Co. set and cemented liner in No. 4 Bryan at 4,200 feet. The Hisgen Petroleum Co.'s No. 2 Busch is drilling at 3,355 feet.

Orange Pool

In the Orange Pool, the Gulf Production Co.'s No. 5 Pevito and the Mutual Oil Co.'s No. 5 Chesson staged blowouts at 4,220 feet and 3,520 feet respectively. Both are now drilling deeper. The Sun Oil Co.'s No. 4 Gunstream, a workover, will make a pumper at 3,525 feet. The Edgerly Petroleum Co.'s No. 10 Carbello will do the same at 3,350 feet. The Humble Oil & Refining Co.'s No. 8-B Chesson is bailing at 3,200 feet.

The Gulf Production Co.'s No. 5-A Winifree is sidetracking at 4,700 feet. No. 2 Hammon-Consolidated is drilling at 4,355 feet. No. 1 Granger is drilling at 1,235 feet. No. 8 Kishi-Lang is below 3,810 feet. A derrick is up for No. 8 Pevito. The Humble Oil & Refining Co.'s No. 7 Winifree is deepening at 3,325 feet, with derrick standing for No. 11. The Sun Oil Co.'s No. 5 Brown is below 5,200 feet and No. 1 Kate on the northeast side of the pool is at 4,500 feet. The Brown lease is on the southeast. The Brownie Babbittee Oil Co.'s No. 4 Brown is fishing at 5,500 feet and may have to sidetrack part of the bit lost in the hole. Its No. 5 McLean is sidetracking at 3,810 feet.

The Rycade Petroleum Corp.'s No. 1-E in Cow Bayou is sidetracking at 4,495 feet. No. 5 is below 1,650 feet and No. 8 at 3,910 feet and No. 14 is around 3,500 feet, with a oocation for No. 3. The Tullery Oil Co.'s No. 2 Cow Bayou is fishing for the screen at 3,025 feet. The Orange Petroleum Co.'s No. 3 Berwick is deepening at 4,200 feet with No. 8 Chesson rigging. No. 8 Winifree is working over. The Mutual Oil Co.'s No. 3 Chesson is at 4,455 feet and No. 7 is fishing at 4,200 feet.

Hull Pool

In the Hull Pool, the Texas-Vacuum Oil Co.'s No. 2 Hannah is flowing 600 bbls., 10 per cent water, at 3,030 feet, after a workover. It is on the southwest side of the dome. One the west side, the Humble Oil & Refining Co.'s No. 1 Hannah went out of heaving shale around 4,000 feet and is now below 4,200 feet. It was started as a deep test, setting 1,000 feet of 10-inch casing. Company's No. 1-B Hannah is drilling at 1,345 feet. The Gulf Production Co. abandoned No. 15 Hannah at 3,900 feet. The Higgins Oil & Fuel Co.'s No. 1 Republic is pumping 15 bbls. at 2,060 feet. The Yount-Lee Oil Co.'s No. 10 Merchant on the north side, is pumping 25 bbls., 15 per cent water at 3,965 feet. The Republic Production Co.-Houston Oil Co.'s joint No. 67 Dolbear, a workover, is flowing 300 bbls., 15 per cent water, at 2,850 feet. No. 91 is pumping 150 bbls. at 2,475 feet and No. 92 is bailing at 2,400 feet.

The same interests are drilling No. 90 Dolbear below 3,675 feet and No. 93 at 1,775 feet. No. 19. an old hole, will be drilled deeper. The Gulf Production Co.'s No. 6 Thomas on the southwest side, is fishing at 2,900 feet with No. 17 Phoenix deepening at 2,975 feet. The Humble Oil & Refining Co.'s No. 18 Guedry on the south is rigging. The Mecom Oil Co.'s No. 6 Mecom is drilling at 4 000 feet. It is on the northwest. The Gulf Co.'s No. 7 Scarborough on the north is deepening at 3.400 feet and No. 13 is drilling below 2,355 feet.

In the Hardin County pools, no wells were complete. in the Batson district during the week. Anderson & Munson's No. 2 Hodges is drilling at 555 feet and the Paraffine Oil Co.'s No. 3 BBBC at 356 feet. The Ada Belle Oil Co. No. 81 Wise is at 785 feet and W. B. Flynn's No. 2 Donohoe at 1,325 feet. The paraffine Oil Co. has a location for No. 58 Paraffine and S. R. Buchanan one for No. 80 Milhome.

In Saratoga Pool, the Rio Bravo Oil Co.'s No. 312-B bailed dry at 725 feet and the Weldon Oil Co.'s No. 7 Kirby is bailing at 850 feet.

Other Pools

The Rycade Petroleum Corp.'s No. 1 Gladys, at Spindletop, a proposed deep test, is sidetracking at 2,825 feet. In the Markham Pool in Matagorda County, the same company's No. 1 Gray is working over and No. 1 Fish is drilling below 3,275 feet. The Rycade Petroleum Co.'s No. 1 Nash, 7 miles southeast of Damon Mound, is drilling below 1,545 feet. It is off the gyp and salt on the Wisdom Dome, where No. 1 Wisdom went into that formation around 645 feet and drilled into it 35 or 40 feet. At Blue Ridge, the Gulf Co.'s No. 1 Invincible on the southwest side of the dome, is drilling at 3,780 feet. At Pierce Junction, Showden & McSweeney's No. 8 Cain is drilling below 1,735 feet and the Gulf Production Co.'s No. 10 Taylor is working over. Both are on the east side.

In the West Columbia Pool, The Texas Co.'s No. 72 Hogg, a workover, is practically a water well, pumping 5 bbls. of oil and 45 bbls. of water at 3,775 feet. The Humble Oil & Refining Co. abandoned No. 2 Badge at 3,650 feet. Same company is working over No. 6 Coon at 3,040 feet.

At Damon Mound, the Sinclair Oil & Gas Co.'s No. 1 Cave on the northeast side, is drilling below 4,235 feet. Hamm & Co. are working over an old hole on the Bryan. John Deering No. 2 Rosonett, a deep test on the northwest side of the Humble Pool, is shut down at 3,880 feet. G. W. Gray's No. 13 Lillard in the Edgerly (La.) Pool, is working over at 2,155 feet.

Semi-Pools and Domes

At High Island Dome in Galveston County, the Sun Oil Co.'s No. 7 Cade is drilling at 5,105 feet, with only 100 feet of surface casing set. It is one of the deepest open holes ever drilled in the Gulf Coast territory. Same company's No. 1-C Cade is around 4,700 feet. The Gulf Production Co.'s No. 2 Smith is rigged. Two holes are drilling to the shallow sand on the dome.

On the south side of Stratton Ridge Dome in Brazoria County, the Sinclair Oil & Gas Co.'s No. 1 Perry is plugging back from 2,544 feet to 2,340-2,370 feet to test a sand showing some oil and gas. It bailed sulphur at 2.544 feet. The Associated Oil Co. is trying to clear hole in No. 1 Perry to deepen from 4,350 feet. The Texas Co. has a location near Clute, southwest of the dome. The Bryan Production Co. is preparing to deepen No. 1 at Bryan Heights, taken over from the Chester Oil at 2.911 feet.

At Big Hill in Jefferson County, the Houston Oil Co.'s No. 1 Davis-Pipkin is drilling at 2,523 feet and No. 1 Sun-Pipkin is around 2,200 feet. In Liberty County, The Texas Co.'s No. 1 Ott, 7 miles west of the Batson Pool, is drilling below 700 feet. The Gulf Production Co. is testing a dome south of Dovers with the semimographs, or "dynamiter," as it is called. The same character of tests are in progress around China in Jefferson County. The operation is simple enough. From 250 to 300 pounds of dynamite are buried in holes about 15 feet square at various distances around the presumed dome and discharged electrically. The tremors caused by the explosions are recorded by the seismograph. In the elevation is a salt mass, the tremors travel faster than through other formations, the recording showing about 1,500 feet to 15,000 in one second. All the major companies with one exception operating in the Coastal region now use either the seismograph or the Eotvos Torsional balance system in testing out elevations. It is seldom that owners of productive saline dome acreage are given consideration now unless they agree to the use of these methods before opening negotiations for its sale. In order to confirm the deductions made from the readings, a series of shallow tests are drilled on what is supposed to be the top of the dome to search for the rock salt and gyp. The new Lockport Pool in Calcasieu Parish is like the Goose Creek and Orange districts in that the salt has not been located yet and it is presumed to be very deep, below the productive sand.

Fort Bend County

A series of formation tests are being drilled in Fort Bend County by the Pathfinder Oil Co. (H. T. Staiti) between Big Creek and Damon and by the Iona Oil Co. between Richmond and Big Creek. The Gulf Coast Development Co.'s No. 3 Vogel in Fort Bend County, is around 3,800 feet. The Dome Development & Petroleum Co.'s No. 1 Schneider, 16 miles west of Houston on Buffalo Bayou.

(Continued on Page 104)

North Louisiana-Arkansas

By M. L. Vaughn

Arkansas production increases 390 bbls., while Louisiana drops 2,280 bbls., mostly in Cotton Valley district, a decline of 1,890 bbls. for the week in both States. Another good gasser in Waskom area. Autrey Oil Co. completes one of the best wells in Nevada County Pool, pumping 100 bbls.

SHREVEPORT, La., Oct. 13. — A slight improvement was shown in Arkansas production during the past week, the runs from all districts averaging 130,280 bbls. a day, an increase of 390 bbls. a day over that of the previous week. Louisiana production showed a decrease of 2,280 bbls. a day, for most of which the Cotton Valley district was responsible, the total daily runs averaging 51,650 bbls a day. Runs from both fields averaged 181,930 bbls., distributed as follows:

North Louisiana	
Bellevue	4,910
Caddo light	9,950
Caddo heavy	2,550
Cotton Valley	4,380
De Soto and Red River	4,700
Elm Grove	735
Haynesville	17,030
Homer	7,395
Total	51,650
South Arkansas	
El Dorado	11,765
Nevada County	1,560
Smackover light	34,860
Smackover heavy	79,815
Stephens	2,280
Total	130,280
Total both fields	181,930
Decrease, 1,890 bbls.	

Completions—Union County, Arkansas

Drilling operations in the Union County area of the Smackover Field resulted in the completions of only three wells, two failures and one with an initial production of 70 bbls.

Hatcher and others abandoned No. 1 Murphy, Section 25-16-16, at 2,616 feet.

Sam Richardson abandoned No. 3 Murphy, Section 23-16-15, at 2,378 feet.

W. E. Rutledge, trustee, completed No. 1 Meek, Section 6-16-16, swabbing 70 bbls. at 2,271 feet.

Ouachita County, Arkansas

Completions in the Ouachita County area of the Smackover Field number 6, with an aggregate initial production of 345 bbls.

Guy Freely completed No. 1 Jeffus, Section 26-15-17, pumping 30 bbls. at 2,327 feet.

The Gilliland Oil Co.'s No. 4 Myar Fee, Section 30-15-16, made a 50-bbl. pumper at 2,296 feet.

Home and others abandoned No. 1 Elliott, Section 24-15-17, at 2,473 feet.

The Pure Oil Co. completed No. 2 Johnson, Section 30-15-15, swabbing 100 bbls. at 2,036 feet.

Sutton and others completed No. 12 Hughes, Section 28-15-16, flowing 80 bbls. at 2,293 feet, and No. 5 McElroy, Section 29-15-16, flowing 75 bbls. at 2,310 feet.

Stephens Field—Ouachita County

The Ohio Oil Co. completed No. 1 Farrar, Section 29-15-19, pumping 10 bbls. at 2,124 feet.

Cotton Valley

Two completions were made in the heart of the Cotton Valley Field, both gas wells with a spray of oil.

The Invincible Oil Co. completed No. 2 Crichton, in Section 21-21-10, making 15,000,000 feet of gas and spraying 10 bbls. of oil at 2,540 feet.

S. S. Raymond and others completed No. 1 Coyle in Section 21-21-10, making 15,000,000 feet of gas with a spray of oil at 2,567 feet.

Bellevue Field

Bliss & Weatherbee completed Bliss & Weatherbee E-8, Section 27-19-11, pumping 5 bbls. at 331 feet.

Caddo Parish

Another good gas well was completed in the Waskom district, in the south end of Caddo Parish and about 15 miles west of Shreveport. The well was drilled by Wilson and others on the Bryson lease in Section 18-17-16, and is making 22,000,000 feet of dry gas at 944 feet. The new gas district lies between 8 and 10 miles north of the Bethany Field and is a valuable addition to the fast waning output of this vicinity.

Morehouse Parish

The Natural Gas Producing Co. completed No. 13 Crossett, Section 27-21-4, making 8,000,000 feet of gas at 2,126 feet.

Ouachita Parish

The Amalgamated Oil Co. completed No. 5 Perry, Section 20-20-5, making 3,000,000 feet of gas at 2,246 feet.

Union Parish

On the eastern edge of Union Parish, adjoining the Monroe gas field, James and others completed No. 1 Talton, Section 14-20-3e, making 4,000,000 feet of gas at 2,140 feet.

Nevada County, Arkansas

One of the best wells of the Nevada County Pool was completed last week by the Autrey Oil Co., No. 2 Drake in Section 10-14-21, pumping 100 bbls. at 1,179 feet.

Drilling

Union County, Arkansas

Amerada Petroleum Corp. is arranging to drill deeper from 1,996 feet in No. 1 Calloway, Section 4-16-15; Arkansas Fuel Oil Co., drilling shale at 2,298 feet in No. 2 Dumas, Section 29-16-15; derrick up for No. 5 LaGrone, Section 1-16-17.

H. E. Clark is repairing derrick in No. 2 Neely, Section 1-16-17, at 1,000 feet; J. W. Clark, arranging to drill deeper from 2,097 feet in No. 1 Palmer, Section 9-16-15. This well was first completed on September 13 and was then owned by Patterson and others.

Dyer Brothers tested No. 3 Stout Lumber Co., Section 31-15-16, and have 100 feet of oil in hole and 2 feet of sand; pulling liner to deepen from 2,252 feet. Estes and others are rigging up No. 3 Freeman, Section 1-16-17; arranging to test 6 feet of sand at 2,264 feet in No. 2 Neely, Section 1-16-17.

Flo Ark Oil Co. tested salt water at 2,156 feet in No. 1 Murphy, Section 36-16-16, and setting 4½-inch liner at 2,272 feet; Lion Oil & Refining Co. set 8-inch casing at 2,221 feet in No. 5 Graves, Section 3-16-15; Lyell and others, waiting on standard rig with 500 feet of oil and 20 feet of broken sand in hole at 1,978 feet in No. 6 fee, Section 3-16-15.

Magnolia Petroleum Co. is drilling No. 3 Campete-Campbell, Section 13-16-17, at 1,450 feet; bailing to test 6 feet of sand at 2,260 feet in No. 1 J. G. Smith, Section 2-16-17, and waiting on standard rig with 1,400 feet of oil and 8 feet of sand in hole at 2,266 feet in No. 2 I. Smith, Section 2-16-17.

Natural Gas & Petroleum Co. has derrick up for No. 1 Frazier, Section 1-18-16; Ohio Oil Co. set 10-inch casing at 102 feet in No. 4 Scott, Section 19-16-15; Star Oil Co., sidetracking 300 feet of drill stem at 1,550 feet in No. 3 Burton, Section 25-16-15.

The Texas Co. is setting a short string of 4½-inch casing at 2,220 feet in No. 5 Alphin, Section 3-16-15; bailing liner to test 9 feet of sand at 2,007 feet in No. 1 Hays, Section 4-16-15; rigging up No. 1 McAdoo, Section 15-16-16.

The United Central Oil Corp. set 10-inch casing at 100 feet in No. 4 Craig, Section 15-16-15, and set 6-inch casing at 1,930 feet.

Wright and others tested dry, with showing of oil at 2,265 feet in No. 2 Hodges, Section 1-15-17; 2 feet of sand in the hole and arranging to deepen through liner.

Drilling Operations—Ouachita County

Atlantic Oil Producing Co. set 6-inch casing at 1,850 feet in No. 3 Jeffus, Section 25-15-17; set 6-inch casing at 2,235 feet in No. C-1 Rowland, Section 20-15-16; Bray-Hawthorne and other, reaming to bottom at 1,912 feet in No. 1 Elliott, Section 11-15-17.

Burton, trustee, rigging up No. 10 Hughes, Section 28-15-16; J. E. Crosbie waiting on standard rig with 200 feet of oil and 12 feet of sand in hole at 2,014 feet in No. 2 Davidson, Section 36-15-16; Crusader Pipe Line Co. waiting on 8-inch casing at 1,800 feet in No. 1 Snow, Section 22-13-16.

The Duho Oil Co. is rigging up No. 12 McKensie, Section 36-15-16; Forest Oil Co. set 12-inch casing at 21 feet in No. 5 D. Minor, Section 29-15-16; tested salt water at 2,262 feet in No. 4 Mullins, Section 28-15-16, cemented back and waiting cement to set at 2,000 feet.

Magnolia Petroleum Co. is waiting on standard rig with 14 feet of sand and 700 feet of oil in hole at 2,319 feet in No. 1 Brown, Section 26-15-17; set 12-inch casing at 160 feet in No. 3 Nettie Patton, Section 32-15-16; set 12-inch casing also at 150 feet in No. 4 W. F. Patton, Section 31-15-16.

Marine Oil Co. in No. 1 Hays, Section 4-16 15, tested 1,000,000 feet of gas and spray of oil at 1,962 feet and waiting on standard rig with 8 feet of sand and 400 feet of oil in hole at 1,967 feet; Mazda Oil Co. drilling No. 1 Fincher at 600 feet (formerly reported as Federal Petroleum Co.'s No. 1 Fincher and abandoned at 42 feet.)

McCorkle and others set 6-inch casing at 1,873 feet in No. 1 Smith, Section 26-15-17; Parrish and others, drilling No. 2 Hardin, Section 28-15-16, at 2,280 feet; Ramage and others, derrick up for No. 3 Jeffus, Section 25-15-17; J. D. Reynolds, set 10-inch casing at 63 feet in No. 3 Brierton, Section 25-15-17.

Riggs Drilling Co. plugged back 9 feet in No. 3 Myar, Section 29-15-16, and waiting cement to set at 2,262 feet; Simms Oil Co. set 10-inch casing at 43 feet in No. 4 Caskin, Section 30-15-15; Stumph & Todd, fishing for swab in 12 feet of sand at 2,270 feet in No. 4 La Grone, Section 30-15-16.

Sure Oil Corp., waiting on standard rig with 7 feet of sand in hole at 2,246 feet in No. 1 Stringfellow, Section 28-15-16; Sutton and others set 10-inch casing at 81 feet in No. 9 Hughes, Section 28-15-16, and drilling at 2,035 feet; derrick up for No. 10 Hughes, same section.

Cotton Valley

The Cotton Valley district, in Webster Parish, continues the center of interest in Louisiana development, although drilling activity is still confined to comparatively few companies.

Alabama Petroleum Co. set 6⅝-inch casing at 2,470 feet in No. 1 Freeze, Section 21-21-10; Fortuna Oil Co., drilling at 2,500 feet in No. 1 W. Cox, Section 15-21-10; at 2,510 feet in No. 3 S. J. Merritt, Section 14-21-10, and rigging up to drill No. 4 S. J. Merritt, Section 4-21-10.

The Gulf Refining Co. set 6-inch casing at 2,467 feet in No. 1 W. Cox, Section 15-21-10; Humble Oil & Refining Co., drilling in lime at 1,810 feet in Bodcau Lumber Co. B-1; drilling at 800 feet in B-2 and rigging up to drill B-3, Section 24-21-10; drilling at 1,365 feet in No. 1 M. S. Davis, Section 24-21-10, and at 1,625 feet in No. 3 Merritt, Section 14-21-10.

Louisiana Oil Refining Corp. is drilling at 850 feet n No. 1 H. C. Gray, Section 28-21-10; Moffat & Murphy set 6⅝-inch casing at 2,463 feet in No. 2 Pardee, Secton 24-21-10; Ohio Oil Co. set 10-inch casing at 450 feet in No. 3 Bank of Cotton Valley, Section 22-21-10, and has four rigs running on the Bodcau lease, Section 15-21-10.

Oil Field Gas Co. is drilling at 1,920 feet in B-3 Hope Estate, Section 13-21-10.

McDowell and others set 10-inch casing at 650 feet in a test on the Hortman lease, Section 15-20-10, 6 miles south of production.

Bienville Parish

Borden and others are deepening test on the Thomas lease in Section 8-16-9, 1 miles east of Lake Bisteneau, and drilling at 2,350 feet.

Bossier Parish

Skannel and others set 8-inch casing at 1,073 feet in No. 2 McDade, Section 10-17-12, south end of the parish.

G. W. Weatherbee is drilling at 600 feet in No. 1 Bollinger, Section 32-23-11, north end of Bossier.

Bellevue Field—Bossier Parish

Webb and others tested salt water at 1,070 feet in their deep test in the shallow sand territory at Bellevue, and are arranging to drill deeper. The test is on the Catlet lease, Section 27-19-11.

Caddo Parish

In the Pine Island district, the Dixie Oil Co. is drilling at 1,000 feet in No. 64 Robertshaw, Section 13-21-15, and in same section, No. 3 Louisiana State is rigging up to drill. The Texas Co. is drilling at 1,530 feet in No. 6 Hobbs, Section 28-21-15.

In the Caddo Lake district, the Gulf Refining Co. is drilling in lime at 3,995 feet in No. 216 Ferry Lake, Section 14-20-16, and the Fortuna Oil Co. is swabbing at 2,200 feet in No. 12 Doan-Thigpen, Section 14-20-16. The Texas Co. set 8-inch casing at 1,390 feet in No. 1 Federal Jeems Bayou, Section 15-20-16.

Richardson Oil Co. started an interesting test near Blanchard, north of Cross Lake, about 5 miles northwest of Shreveport. It is on the Bickham lease and is drilling at 100 feet.

In the Waskom territory in the south end of the parish, the Proven Production Co. tested salt water at 1,177 feet in a test on the Agurs lease, Section 6-16-16, and it has not yet been decided whether it will be drilled deeper. R. O. Wells has derrick up for a test on the Stringfellow sand, Section 18-17-16.

Caldwell Parish

Culver and others drilled to 2,700 feet in No. 1 fee, Section 21-14-4, tested salt water and waiting orders. The test is 5 miles north of Columbia.

Claiborne Parish

Claiborne-Lincoln Syndicate made a location for No. 1 Fields, Section 22-19-5, 5 miles north of Arcadia.

The El Dorado Chief Oil Co. is drilling at 1,250 feet in No. 1 McElwee, Section 13-22-7, 7 miles north of Homer.

Gulf Refining Co. is drilling at 2,722 feet in a deep test on the Farmer lease, Section 35-23-6, 10 miles northeast of Homer.

Pomeroy and others are drilling at 1,000 feet in No. 1 Harmon, Section 34-20-6, 8 miles southeast of Homer.

De Soto Parish

A. H. Tarver is drilling No. 1 Hewitt-Hicks, Section 10-11-14, at 2,875 feet, 10 miles east of Logansport.

Oil Field Exploration Co. set 12-inch

(Continued on Page 101)

North-Central Texas Field

By Dan F. Dugan

Riner & Bailey's No. 21 Wilson, Archer County, completed for 500 bbls. Consolidated Oil Co.'s No. 2 Davis, makes 300 bbls. Winnipeg Oil Co.'s No. 1 Bond, south of Vernon Pool, Wilbarger County, showing for 450 bbls. Carter & Phillips and Macon Oil & Gas Co. have two good showings.

FORT WORTH, Tex., Oct. 13.—Daily production in the North Central Texas Field for the week in review was reported at 120,515 bbls. against 121,400 bbls. for the previous week, a loss of 885 bbls. daily.

There was reported for the entire field during the week in review a total of 45 completions. Of that number 29 produced oil, 14 were dry and 2 gas wells. Compared with the completion table for the previous week there was a loss of 7 oil wells, 6 dry holes and a gain of 2 gas wells.

Archer County reported the largest initial completion for the entire field, the Riner & Bailey No. 21 Wilson for 500 bbls. at 1,610 feet, also the second largest producer, the Consolidated Oil Co.'s (formerly Knight & Hines) No. 2 Davis for 300 bbls. at 1,100 feet.

Thursday it was reported from Vernon, Wilbarger County that the Winnipeg Oil Co.'s No. 1 Bond, in the new pool 8 miles south of Vernon, at 2,007 to 2,015 feet was showing around 450 bbls. every 24 hours. This is the third gusher in this district, the No. 1 being the Thelma Wells No. 1, 500 to 1,000 bbls., the second the Bridwell & Heydrick No. 1, 500 bbls. and the Winnipeg Oil Co.'s, last reported completion, 450 bbls. daily, all in the same depth producing strata, just below 2,000 feet. Wheeler County reported a lareg gasser completion, Wilbarger and others' No. 1 Williams for 100,000,000 feet of dry gas at 2,225 feet.

Archer County More Active

There was a noticeable increase in drilling activities in nearly all the producing districts, also in the wildcat territory. The most active spot during the past week has been in the territories lying to the north and west of Olney and along the north line of Young County.

Due to the great number of tests drilling there have been a number of producers completed in the past week while others are on the sand ready to be completed in a few days. New locations are being made daily and trucks are kept busy hauling material to the different drilling sites.

Lee Wilson has placed his two producers, Nos. 1 and 2 Beardon, on the pump, the former making 200 bbls. and the latter is good for 300 bbls. daily. The top of the sand was encountered at 1,065 feet and was drilled to 1,091 feet, showing 26 feet of sand and before the drill could be extracted the wells started flowing.

Carter & Phillips and the Macon Oil & Gas Co. equipped and put on the pump their Nos. 4 and 5 White, showing for two of the best completions from that part of the field. No. 4-E lease is producing 250 bbls. from the sand at 1,599 to 1,603 feet, and No. 5-E lease is producing a like amount from the sand at 1,597 feet. No. 6 is drilling at 300 feet and No. 7 is rigging up.

On the Tad Wilson land, Block 90, the Gulf Production Co. is drilling at 1,600 feet in its No. 1 deep test. Unless oil and gas are found at a lesser depth, drilling will continue to a depth of 3,100 feet.

Skinner and associates have spudded in their No. 1 Dugan, a wildcat about 14 miles north of the Comac producers.

The Underwood Drilling Co. has spudded in its No. 1 Rogers, in Block 2,400, T. E. L. Survey, about one-half mile southwest of the Murchison, Fair, Golding, Marland producer on the Hamel tract.

The Daniels & Rutis No. 1 Parkey, a wildcat, cored into a good oil sand, encountered at 1,508 feet, located in Block 37, Dallas County School Lands, is setting casing to test in the next day or two. This test is approximately 2 miles northwest of the Comac producers on the Llewellyn survey and the outcome is being watched closely by the operators in that part of the county.

There is little doing in the Callahan and West Eastland County territories; two new locations were selected during the past week and two tests spudded. Both locations are in the Cross Cut section and are perhaps more important to the district than anything begun since the discovery of the 2-mile south extension several months ago.

One of the new locations is by C. O. Moore and E. R. Wilson on the Williams land and being well outside the proven area takes front rank position in testing a structure that has had the approval of a number of geologists. The rig for this test is now being completed and tools moved in.

The other location sharing the spotlight will be drilled by Williamson and others on the south J. W. Newton tract, near Pecan Bayou, and approximately 1 mile southeast of the Conway & Curry south extension discovery well, thus far the farthest test to be drilled in that direction.

In the Cross Cut east extension, Swartz & Davis are near the pay in their No. 1 Newton and on an adjoining lease Pat O'Donnell and others are reported to be starting operations on No. 2 Chambers.

It is reported from San Angelo that activities are gradually increasing in the Reagan County Field, seven rigs are reported in course of construction and several new locations have been selected.

A steel derrick has been completed for the Big Lake Oil Co.'s No. 13 University, northeast quarter of Section 12, Block 2, 400 feet each way from the east and north lines. Also a derrick for the Big Lake Oil Co.'s No. 14 on the northwest quarter of Section 1, Block 2, 400 feet from each line. J. D. Wade, Mexia contractor, is rigging up a rotary for the spudding in within a few days of Big Lake Co.'s No. 15 on the southwest quarter of Section 12, Block 2.

The Transcontinental Oil Co. is building a derrick to drill on Section 10 Block 1, 400 feet from the north and east lines. This well is intended to protect a 16-section combination worked out by the Gulf Production and Transcontinental Companies.

Pete Hoffman and others have timbers on the ground for test No. 1 University. This will be located 400 feet from the north and east lines of Section 23, Block 11, and about 3 miles west of the town of Big Lake.

The Arkansas Natural Gas Co. has all rig materials on the ground and is erecting the derrick for a test on the Pecos County ranch of Blackstone & Slaughter of San Angelo. It will be on Section 11, T. H. & T. C. Railway Co. survey, 35 miles south of Girvin.

Wichita County

There was no interesting activities reported from Wichita County for the week in review. In the South Electra Field, a few tests are drilling by the major companies on the older leases in the defined areas of both the Waggoner and Burkburnett lands.

Placed on the pump the Underwood Drilling Co.'s No. 1 Maer, located in its 30-acre lease, Hill & Roberts Pool, is good for 100 bbls. from the sand at 1,764 feet.

The United Central Oil Corp. completed No. 13 McCarty, in the Beaver Creek district with an initial production of 125 bbls. daily from a sand at 1,687 to 1,703 feet.

In the Murphy's Corner district, the Shappel Oil Co.'s No. 15 Jackson was placed on the pump and showed 125 bbls. a day from the sand at 1,812 feet. Four miles east of these producers the Shappel Oil Co. spudded in its wildcat test located in Block 21, J. B. Sisk land.

Brunson & Grafa's wildcat, the No. 1 Haney, located in the southwest corner of the west 80 acres of Block 62 Red River lands is drilling in the neighborhood of 400 feet. This test is 50 feet from a dry hole drilled in 1919 though it had several shows of oil during the drilling.

Wilbarger Gets Attention

This section of the field is attracting more attention than any other territory in the North Texas Field. The principal producer so far developed in the pool which is located south of the town of Vernon about 8 miles, is the Thelma Wells and others No. 1 Wharton. This well, which was completed about three months ago, was placed on the pump with 150 bbls. production from a sand at 1,996 feet, drilled 23 feet deeper and when the tools were withdrawn from the hole the well responded and began to flow naturally over the top of the derrick until shut off, with an estimated production of 1,000 bbls. per day, showing up for the best completion in the North Texas district since the Burkburnett gushers.

Three hndred feet to the south of this well the Winnipeg Oil Co.'s No. 1 Bond, located in the northeast corner of its 10-acre lease, Section 11, drilled practically the same depth sand and it is showing around 450 bbls. daily. Altogether, the new pool has five producing wells and others soon to be completed, with many derricks in course of construction in all directions radiating from the discovery well.

Wichita County Completions

Magnolia Petroleum Co.'s No. 6 Serrin, dry at 1,725 feet; same company's No. 9 Beach, 10 bbls. at 1,185 feet; same company's No. 15 Anderson, 20 bbls. at 1,850 feet; Allen and others' No. 2 K. & K. 35 bbls. at 1,165 feet; Apple and others No. 1-A Jennings, dry at 1,980 feet; Burnett Ranch Oil Co.'s No. 8 Burnett, 40 bbls. at 1,795 feet; Carter and others' No. 1 Hodges, dry at 1,660 feet; Electra Gulf Oil Co.'s No. 7 Murray, 80 bbls. at 1,660 feet; same company's No. 1 Overby dry at 1,820 feet; Hill and others' No. 9 Overby, 75 bbls. at 1,660 feet; Lee and others' No. 4 McCarty, 60 bbls. at 1,225 feet; Magnolia Petroleum Co.'s No. 7 McMahon, dry at 1,660 feet; Petroleum Production Co.'s No. 9 Maer, 60 bbls. at 1,665 feet; Robertson and others' No. 1 McCarty, 35 bbls. at 1,700 feet; Stewart Oil & Gas Co.'s No. 1 Keuhn, dry at 1,860 feet; Texhoma Oil & Refining Co.'s No. 3-A Burnett, 30 bbls. at 1,815 feet.

Archer County Completions

Carter and others' No. 4 White 100 bbls. at 1,605 feet; Fuller and others' No. 1 White, dry at 870 feet; same company's No. 1 Miller, 15 bbls. at 840 feet; No. 2 Miller, 5 bbls. at 885 feet; Godfrey and others' No. 1 White, dry at 1,765 feet; Griswold Oil Co.'s No. 1 Andrews, 10 bbls. at 1,445 feet; Kentucky Oil Corp.'s No. 2 Pruitt, 125 bbls. at 1,600 feet; Moore and others' No. 1 Wilson, dry at 1,650 feet; Featherstone and others' No. 6 Nichols, 250 bbls. at 1,610 feet; same company's No. 7 Nichols, dry at 1,624 feet; Riner & Bailey No. 21 Wilson, 500 bbls. at 1,610 feet; Tex-O-Kan Oil Co.'s No. 4 White, 40 bbls. at 1,600 feet; Consolidated Oil Co.'s No. 2 Davis, 300 bbls. at 1,100 feet; Hobbs Oil Co.'s No. 1 King, dry at 1,500 feet; Holmes and others' No. 1 Wilson, dry at 1,435 feet; Reed and others' No. 5 Andrews, dry at 1,020 feet; Shamrock Oil Co.'s No. 1 Boren, 200 bbls. at 1,075 feet; same company's No. 12 Goldsmith, 100 bbls. at 1,355 feet; No. 13 Goldsmith, 100 bbls. at 1,345 feet; No. 4 Richardson, 110 bbls. at 1,305 feet.

Young County

Completions—The Oil Lease Development Co.'s No. 1 Rubenkoenig, dry at 4,256 feet.

Stephens County

Completions—Rochell and others' No. 2-A Sweeney, 75 bbls. at 3,300 feet; Seaboard Oil & Gas Co.'s No. 1 McCleskey, 4,000,000 feet of gas at 3,580 feet.

Eastland County

Turner and others' No. 3 Jones, 75 bbls. at 3,390 feet.

Wildcat Completions

Throckmorton County: Completions—Humble Oil & Refining Co.'s No. 1 Stubblefield, 80 bbls. at 3,195 feet; Larkin and others' No. 1 Conger, 10 bbls. at 1,430 feet.

Mitchell County: Completions—California Co.'s No. 11 Morrison, 90 bbls. at 3,080 feet; same company's No. 6 Abrams, 120 bbls. at 3,080 feet.

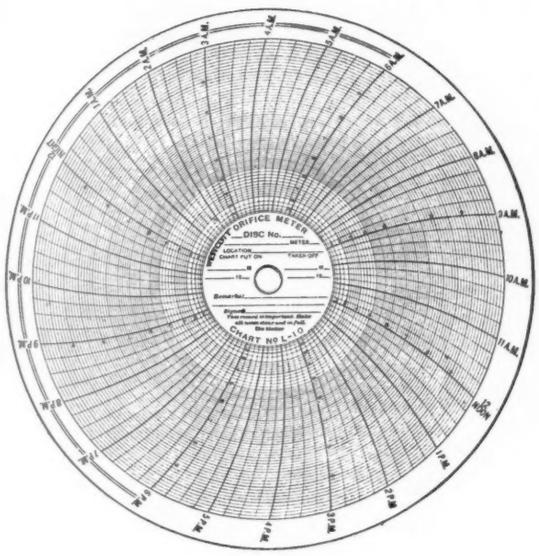
Wheeler County: Completions—Whittington and others' No. 1 Williams, 100,000,000 feet of gas at 2,225 feet.

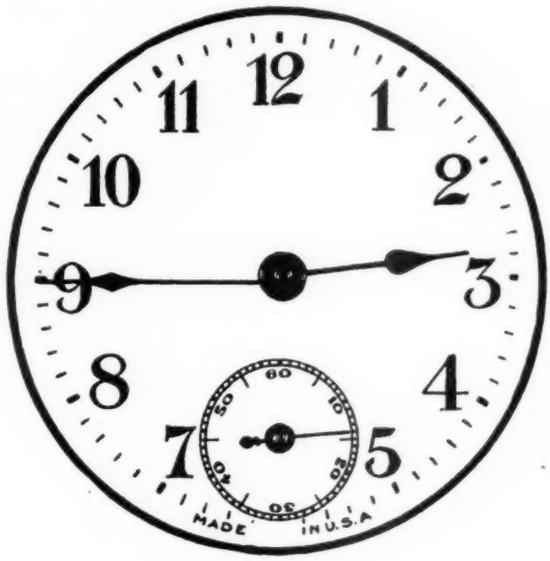
PRODUCTION REPORT

Week Ending October 9, 1924

Burkburnett	
Barkley & Meadows	1,040
Humble Oil & Ref. Co.	510
Gulf Production Co.	840
Magnolia Petroleum Co.	3,005
McMahon Oil Co.	220
Panhandle Oil & Ref. Co.	275
Prairie Oil & Gas Co.	35
Sinclair Oil & Gas Co.	75
The Texas Co.	500
Texhoma Oil & Ref. Co.	430
Miscellaneous	11,200
Total	18,130
Electra	
Empire Gas & Fuel Co.	1,275
Humble Oil & Ref. Co.	205
Griswold Oil Co.	375
Gulf Production Co.	940
Magnolia Petroleum Co.	4,100
McMahon Oil Co.	225
Panhandle Oil & Ref. Co.	50
The Texas Co.	4,175
Texhoma Oil & Ref. Co.	2,065
Miscellaneous	6,955
Total	20,365
Iowa Park, Etc.	
Griswold Oil Co.	60
Gulf Production Co.	35
Humble Oil & Ref. Co.	25
Panhandle Oil & Ref. Co.	85
Texhoma Oil & Ref. Co.	65
Miscellaneous	3,980
Total	4,250
Archer County—	
Empire Gas & Fuel Co.	1,030
Griswold Oil Co.	770
Gulf Production Co.	260
Humble Oil & Ref. Co.	245
Magnolia Petroleum Co.	365
Panhandle Oil & Ref. Co.	920
Prairie Oil & Gas Co.	1,395
The Texas Co.	475
Texhoma Oil & Ref. Co.	2,150
Miscellaneous	21,585
Total	29,195
Petrolia—	
Gulf Production Co.	55
Magnolia Petroleum Co.	20
The Texas Co.	70
Miscellaneous	260
Total	405
Total North Texas	72,435
Stephens County	
Empire Gas & Fuel Co.	100
Gulf Production Co.	1,340
Humble Oil & Ref. Co.	1,070
Magnolia Petroleum Co.	795
Mid-Kansas Oil & Gas Co.	1,915

As Simple as Telling Time





Westcott Orifice Meters Figure for You

Gas, Oil, Steam, Water

No more $\sqrt{h(P+14.4}$—No more Pressure Extensions

Field, Plant or Office

Write for Bulletin 120

It explains this most desirable step forward

METRIC METAL WORKS

OF THE

AMERICAN METER CO., Inc.

ERIE, PA.

WESTCOTT & GREIS

(Sales Service)

Tulsa—Dallas—Los Angeles

Wirth Drilling Outfits Prove Be

The "Wirth" Waterflush Combination Rig

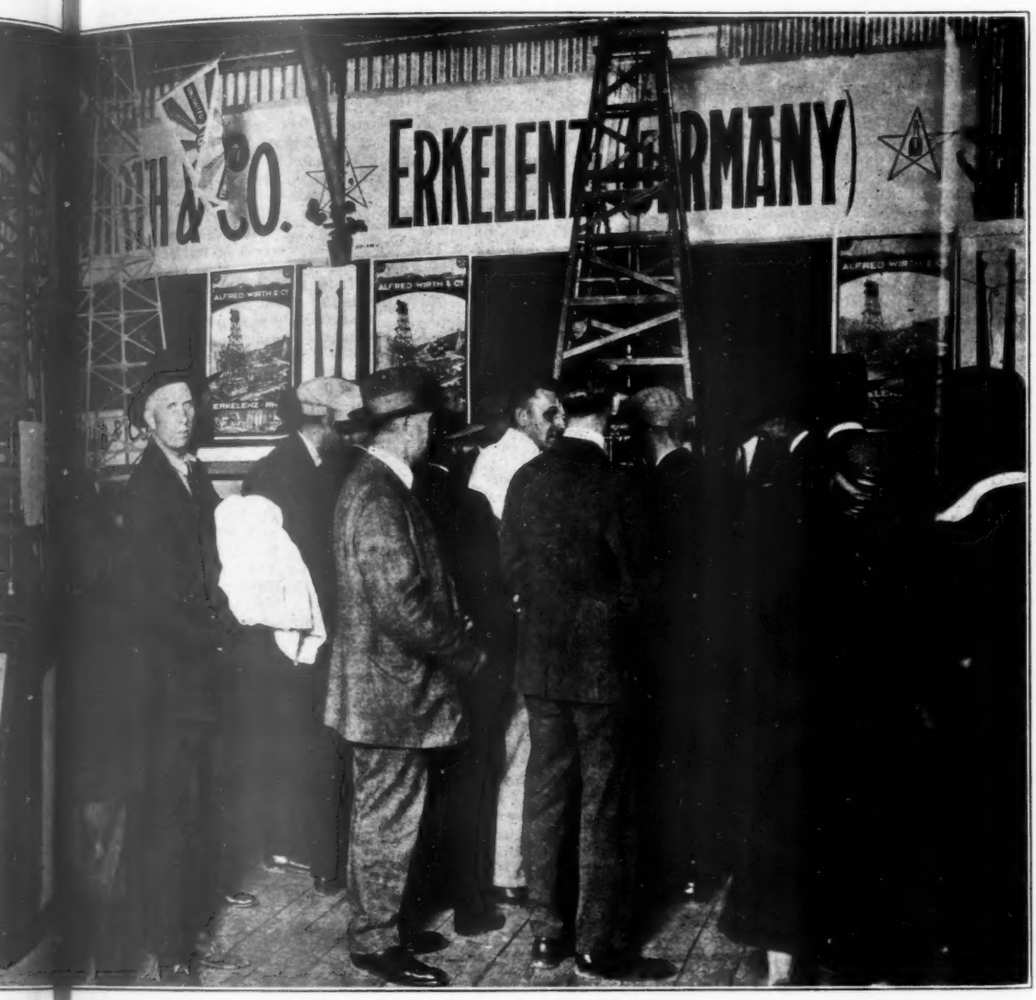
The "Wirth" waterflush combination rig consists of a fully equipped rapid percussion waterflush drilling plant furnished with a rotary table. The plant is entirely constructed of iron and steel. It may be used for depths up to 4,000 feet. The special pumps and accessories for feeding the mud flush of the tools and the hoisting device are of such a high quality that they will perform their duty easily and economically as well for the waterflush percussion as for the rotary.

The rapid percussion is brought about by means of the usual rods and percussion tools. The rods are connected with the walking-beam of the rig by a steel rope. The stroke of the walking-beam is adjustable, the working weight of the rods is balanced by the piston of a special compressed air cylinder.

The rotary drilling is done by the usu rotary table. The construction of this tab is of the most modern type, with arrangement for retaining and screwing off. The sprock on the pinion shaft of the rotary table is con nected by a chain with a sprocketwheel o the mainshaft of the percussion rig. There for the usual draw works of the rotary sy tem are not needed.

The "Wirth" waterflush combination i the only combination giving all the advan tages of waterflush and rotary drilling. I America the rotary system is thought su perior to all others, in Europe the waterflus has beaten every competing system. There fore the "Wirth" waterflush is the best com bination rig up to date.

ALFRED WIRTH &
Erkelen



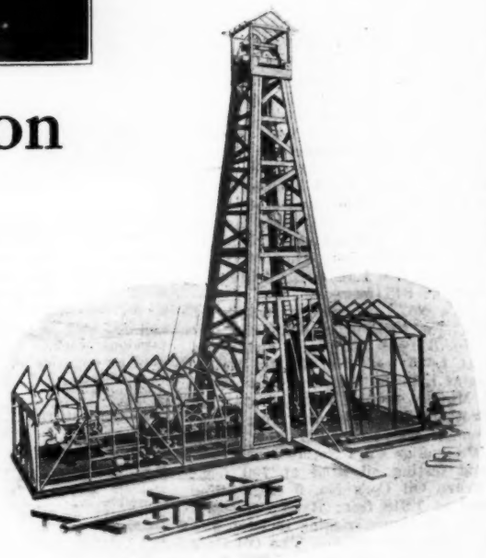
Be the Sensation of the Exposition

The "Wirth-Fauck" Universal Rapid Percussion Rig

The walking-beam saddle is so disposed that the point of balance is in the same height as the axle of the top pulley which reduces the deviation in the swing of the rods in the vertical plain to a minimum. The top pulley cramped into hinged bearings is of such dimensions as to permit placing of casings of 29.5 inches when rolled back. The eccentric shaft driven by means of a hemp rope has eccentric bushing (differential eccenter) by means of which tool strokes from 2.75 to 7.87 inches may be obtained. For dry or cable drilling tool strokes from 25.2 to 39.37 inches are obtained by changing to the crankshaft. The crankshaft is driven from the eccentric shaft. Through the crankshaft the walking-beam is driven by means of a connecting rod (pitman). With the "WIRTH-FAUCK" Rig up to 150 strokes a minute have been attained.

In the construction of the "WIRTH-FAUCK" Universal Rapid Percussion Rig the greatest care has been taken to make drilling an easy work. By special arrangement it is possible to apply the following different methods:

1. RAPID PERCUSSION DRILLING. Tool stroke 2.75 to 7.87 inches for direct or reversed flush. The possibility of drilling the full length of the normal rods has been provided for.
2. CANADIAN DRILLING. Tool stroke up to 25.2 inches.
3. CABLE TOOL DRILLING. Tool stroke up to 39.37 inches.
4. CORE DRILLING.



& COMPANY

Germany

Prairie Oil & Gas Co.	1,125	
Sinclair Oil & Gas Co.	145	
The Sun Co.	465	
The Texas Co.	2,035	
Texas Pacific Coal & Oil Co.	1,305	
Miscellaneous	7,540	
Total		17,835
Eastland County		
Gulf Production Co.	385	
Humble Oil & Ref. Co.	100	
Magnolia Petroleum Co.	520	
Panhandle Oil & Ref. Co.	430	
Prairie Oil & Gas Co.	680	
Sinclair Oil & Gas Co.	500	
The Texas Co.	365	
Texas Pacific Coal & Oil Co.	900	
Miscellaneous	3,075	
Total		6,955
Other Fields		
Strawn—		
Texas Pacific Coal & Oil Co.	300	
Miscellaneous	500	
Total		800
Moran—		
Empire Gas & Fuel Co.	55	
Humble Oil & Ref. Co.	445	
The Texas Co.	155	
Texhoma Oil & Ref. Co.	150	
Miscellaneous	2,275	
Total		3,080
Coleman County—		
Miscellaneous	130	130
Brown County—		
Miscellaneous	675	675
Comanche-Eastland—		
Humble Oil & Ref. Co.	210	
Magnolia Petroleum Co.	1,015	
Prairie Oil & Gas Co.	195	
Sinclair Oil & Gas Co.	60	
The Texas Co.	210	
Texas Pacific Coal & Oil Co.	120	
Miscellaneous	4,380	
Total		6,190
Young County—		
Gulf Production Co.	85	
Sinclair Oil & Gas Co.	390	
Panhandle Oil & Ref. Co.	170	
The Texas Co.	65	
Miscellaneous	3,045	
Mitchell County	1,705	
Reagan County	5,520	
Jack County	25	
Scurry County	15	
Carson County	1,320	
Hutchinson County	75	
Total		12,415
Total Central Texas and Panhandle		48,080
Total this week		120,515
Total last week		121,400
Loss		885

Wichita County Drilling

Frankin and others' No. 1 Everett, spudding at 40 feet; Hunter and others' No. 3 Bailey, drilling in rock at 1,395 feet; Miller and others' No. 1 Evans has 400 feet of oil in hole and drilling at 1,655 feet; Magnolia Petroleum Co.'s No. 1 Lindsay, drilling in shale at 1,190 feet; Magnolia Petroleum Co.'s No. 106 Reilly, testing oil sand at 1,316 feet; No. 107 Reilly, reaming to set casing at 1,300 feet; Ascot Co.'s No. 26 Roller, drilling in soft rock at 1,565 feet; Underwood Drilling Co.'s No. 26 Roller, drilling in soft rock at 1,565 feet; Wilcox and others' No. 1 Roberts, drilling in blue shale at 1,790 feet; Shappell Oil Co.'s No. 1 Sisk, drilling in red mud at 800 feet; Barr and others' No. 1 Foster, drilling at 900 feet; Bower and others' No. 7 Peeler, drilling at 1,230 feet; Brewer and others' No. 1 Henson, drilling at 1,615 feet; Elliott and others' No. 2 Jennings, drilling at 600 feet; Gwynn and others' No. 1 Waggoner, drilling in hard rock at 1,335 feet; Humble Oil & Refining Co.'s No. 1 K. & K., drilling in soft rock at 845 feet; Magnolia Petroleum Co.'s No. 7 Abernathy, drilling at 880 feet; No. 10 Douglas, drilling at 890 feet; No. 3 Pere Waggoner, drilling in shale at 1,635 feet; No. 39 Rio Bravo, drilling at 1,290 feet; Murray and others' No. 1 Murray, drilling at 900 feet; Parker Brothers' No. 1 Hodge, trying to set and cement casing at 1,821 feet; Petroleum Production Co.'s No. 10 Maer, bailing and testing oil sand at 790 feet; Rio Bravo Oil Co.'s No. 5 fee, bailing oil sand at 1,918 feet; Ryan Petroleum Co.'s No. 25 Nance, rigging to swab and test at 1,660 feet; Section Two Oil Co.'s No. 4 Burnett, drilling at 1,325 feet; Stacy and others' No. 2 Burnett, drilling at 1,465 feet; Texhoma Oil & Refining Co.'s No. 4 Burnett, setting 6⅝-inch casing on top of oil sand at 1,800 feet; No. 10 Burnett, drilling water sand at 1,605 feet; Underwood Drilling Co.'s No. 5 McCarty, drilling at 1,590 feet; No. 1 Maer, standardizing to pump and test oil sand at 1,770 feet; United Production Co.'s No. 3 Jennings, rigging to pump oil sand at 1,560 feet.

Archer County Drilling

Petroleum Production Co.'s No. 1 Murray, drilling in shale at 1,480 feet; Anderson and others' No. 2 Hughes, drilling at 415 feet; Barkley and others' No. 4 Wilson, drilling at 1,280 feet; Beaudoin and others' No. 1 Coleman, drilling at 400 feet; Bridwell and others' No. 4 Wilson, pulling casing to drill deeper at 1,409 feet; Cannon and others' No. 1 Jackson, drilling in shale at 1,420 feet; Carter and others' No. 1 Wilson, will test oil sand at 1,528 feet; No. 1 Parrish, drilling at 1,635 feet; Dee Brothers' No. 1 White, drilling at 800 feet; Fletcher and others' No. 1 Cowen, drilling in brown shale at 1,070 feet; Fuller and others' No. 3 Miller, drilling at 645 feet; Humble Oil & Refining Co.'s No. 1 Pease, showing about 25 bbls. of oil daily and standardizing at 1,476 feet; Jeffers and others' No. 1 Wilson, drilling at 1,285 feet; Jetter and others' No. 1 White, drilling at 1,080 feet; Kentucky Oil Corp.'s No. 4-C Parrish, drilling in soft rock at 1,485 feet; McDonald and others' No. 1 Sterrett, drilling in blue shale at 1,785 feet; Murchison and others' No. 2 Wilson, drilling at 1,025 feet; Underwood Drilling Co.'s No. 1 Miller, drilling in soft rock at 1,360 feet; Oil Investment Co.'s No. 1 Brown, testing oil sand at 1,285 feet.

Phillips and others' No. 2 Wilson, drilling at 1,250 feet; No. 3 Wilson, drilling at 900 feet; Robertson and others' No. 2 Parrish, drilling in soft rock at 1,590 feet; No. 1 White, drilling in blue shale at 1,430 feet; Sheets and others' No. 1 Albright, drilling at 1,520 feet; Simms Oil Co.'s No. 1 Parrish, drilling at 1,525 feet; No. 2 Parrish, drilling at 1,385 feet; Staley and others' No. 8 Wilson, drilling at 1,430 feet; Sun Oil Co.'s No. 1 Lowery, drilling at 325 feet; Woodburn Oil Corp.'s No. 8-A Wilson, drilling without any oil showing at 2,685 feet; Carey and others' No. 1 Logan, fishing for drill pipe at 1,140 feet; Daniels and others' No. 1 Parkey, will test oil sand at 1,519 feet.

Evangeline Oil Co.'s No. 1 Farmer, standardizing on top of oil sand at 1,268 feet; Saunders and others' No. 1 Logan, standardizing at 1,280 feet; Simms Oil Co.'s No. 1 Falls, County School Land, drilling at 845 feet; Carey Drilling Co.'s No. 1 Hausler, showing 30 bbls. of oil daily and standardizing at 1,125 feet; Clark and others' No. 1 Echols, swabbing 100 bbls. a day and not yet completed at 1,338 feet; No. 1 Jenkins, drilling at 300 feet; No. 6 Scruggs, drilling at 600 feet; Consolidated Oil Co.'s (formerly Knight & Hines) No. 1 Beardon, drilling at 765 feet; No. 2 Beardon, drilling at 600 feet; No. 4-B Ragle, drilling at 300 feet; No 3-C Ragle, fishing for a bit at 850 feet; Flowers and others' No. 1 Hayter, drilling at 1,180 feet; Hart and others' No. 1 Cowen, drilling in shale at 1,735 feet; Jeffers and others' No. 2 Hausler, showing oil and will test at 1,120 feet; Lowery and others' No. 3 Harbison, showing 100 bbls a day and will test and complete at 1,325 feet.

Maer and others' No. 1 Griffin, drilling at 1,010 feet; Melat and others' No. 1 Goldsmith, showing 35 bbls. of oil daily and drilling at 1,360 feet; No. 2 Goldsmith, drilling at 100 feet; Murchison and others' No. 1 Echols, drilling in oil sand at 1,315 feet; Muse and others' No. 1 Kunkel, drilling at 1,020 feet; Polk and others' No. 1 Benson, fishing job at 450 feet; Russell and others' No. 3 Benson-drilling in shale at 935 feet; Shamrock Oil Co.'s No. 1 Anderson, drilling at 155 feet; No. 6 Campbell, drilling at 160 feet; Sun Oil Co.'s No. 1 Green, drilling in rock at 225 feet; Superior Oil Co.'s No. 1 Collin, drilling at 985 feet; Swastika Oil Syndicate's No. 1 Richardson, standardizing to pump oil sand at 1,355 feet; No. 2 Richardson, will pump oil sand at 1,345 feet; No. 1-B Neal, drilling at 740 feet; The Texas Co.'s No. 1-B Goldsmith, drilling at 905 feet; World Publishing Co.'s No. 1 Herron, drilling in hard rock at 1,375 feet.

Young County Drilling

Dunn and others' No. 1 Johnson, drilling in hard lime at 3,800 feet; Grant and others' No. 1 Casey, underreaming for 6-inch casing at 860 feet; Heibert Drilling Co.'s No. 1 Johnson, drilling at 1,430 feet; Jeffers and others' No. 1 West, drilling in blue shale at 1,135 feet; Litchfield and others' No. 1 Campbell, drilling at 310 feet; McGarr and others' No. 1 Johnson, drilling in hard black lime at 3,865 feet; No. 1 Scarborough, cleaning out at 2,220 feet; Nash and others' No. 1 Williams, drilling in shale at 935 feet; Simms Oil Co.'s No. 1 Willis, underreaming 8-inch casing at 2,510 feet; Texas Central Development Co.'s No. 1 Taag, drilling in shale at 1,150 feet; Stovall and others' No. 2 Stovall, fishing for casing at 3,052 feet; Humphreys Oil Co.'s No. 1 Benson, drilling at 1,025 feet.

Stephens County Drilling

Critten and others' No. 7 Cobb, running 6-inch casing at 2,741 feet; Hoffer Oil Co.'s No. 1 Webb, drilling in rock at 2,350 feet; Liner and others' No. 2 Brown, fishing for tools at 3,125 feet; Pierce and others' No. 1 Crudgington, sidereaming for 5-inch casing at 3,420 feet; Prairie Oil & Gas Co.'s No. 15 Atkins, drilling by tools at 3,260 feet; No. 2 Caldwell, running 8-inch casing at 2,000 feet; Rainey Production Co.'s No. 2 Walker & Caldwell, drilling in blue rock at 3,950 feet; Texas Pacific Coal & Oil Co.'s No. 5 Rogers, fishing for 5-inch casing at 4,530 feet; Walker and others' No. 4 First National Bank, swaging casing at 1,750 feet; No. 5 First National Bank, drilling in shale at 1,000 feet.

Buckeye Development Co.'s No. 1 Walker, drilling by casing at 1,085 feet; Carter and others' No. 1 Jennings, running 8-inch casing at 1,980 feet; Humble Oil & Refining Co.'s No. 1 O'Laughlin, drilling at 2,215 feet; Ice and others' No. 1 McClesskey, drilling at 2,140 feet; Kleinfulder and others' No. 1 Grimes, drilling at 750 feet; Knox-Lewis Oil Co.'s No. 1 Flournoy, hole ful lof water and running 10-inch casing at 1,900 feet; Landreth Production Co.'s No. 1 Ward, drilling at 1,350 feet.

Magnolia Petroleum Co.'s No. 9 Brown, fishing for casing at 3,300 feet; No. 5 Brown, drilling in black lime at 3,320 feet; No. 7 Brown, drilling at 600 feet; No. 1 Taylor, drilling at 3,320 feet; McLester and others' No. 1 Robertson, drilling in black lime without any oil showing at 3,590 feet; Pender and others' No. 1 Hart, drilling at 400 feet; States Oil Corp.'s No. 1 Boles, spudding; No. 1 Hall, drilling in blue shale at 2,705 feet; The Texas Co.'s No. 10 Curry, running 8-inch casing at 2,285 feet; Texas Fidelity Oil Co.'s No. 1 McClure, drilling at 2,265 feet; Texas Pacific Coal & Oil Co.'s No. 1 Hand, drilling by tools at 2,132 feet; Welch and others' No. 1 Sandidge, drilling in brown shale at 1,800 feet.

Eastland County Drilling

Brothers Oil Co.'s No. 1 Watson, fishing for tools at 3,130 feet; Hart and others' No. 1 Davenport, drilling at 250 feet; Hodnett and others' No. 1 Sibley, drilling in soft rock at 300 feet; Lobaugh and others' No. 2 Holcomb, spudding; Magnolia Petroleum Co.'s No. 17 Westmoreland, drilling at 690 feet; Reclamation Oil Co.'s No. 6 Bond, fishing for casing at 2,500 feet; Williamson and others' No. 4 Cox, drilling at 1,000 feet; Grisham and others' No. 1 McDonald, underreaming at 1,200 feet; McBride and others' No. 1 White, spudding; Mexia Star Oil Co.'s No. 1 Hodge, drilling in blue shale at 2,720 feet; Rosenfield and others' No. 1 Brunett, fishing for 5-inch casing at 3,198 feet; Root and others' No. 1 Ammerman, spudding.

Wildcat Drilling

Hutchinson County: Amarillo Oil Co.'s No. 2-B, showing 2,000,000 feet of gas and drilling in shale at 1,570 feet; Western Enterprise Oil Co.'s No. 1 Smith, drilling in lime and shale at 2,100 feet.

Carson County: American Refining Co.'s No. 2 Burnett, drilling at 2,700 feet; No. 3 Burnett, drilling at 1,300 feet; Crosby Oil Co.'s No. 1 Burnett, spudding at 150 feet; Danciger Oil Co.'s No. 1 Burnett, reaming at 2,680 feet.

Gates Oil Co.'s No. 1 Burnett, drilling in lime at 2,215 feet; Marland Oil Co.'s No. 1 Burnett, drilling at 500 feet; Olsen and others' No. 1 Burnett, drilling in shale at 2,115 feet; Silk and others' No. 3 Burnett, drilling by pipe at 2,906 feet; The Texas Co.'s No. 1 M. C. Burnett, drilling in granite wash at 2,945 feet; No. 4 Burnett, showing 200 bbls. of oil daily and testing 2,965 feet.

Gray County: Holmes and others' No. 1-A Morris, drilling in red beds and salt rock at 740 feet; Wilcox Oil Co.'s No. 1 Wilson, drilling at 2,965 feet.

Wilbarger County: Bridwell and others' No. 1 Stephens, drilling in brown shale at 860 feet; Castleberry and others' No. 1 Bowers, drilling at 810 feet; Dill Farm Oil Co.'s No. 1 Dill, underreaming for 6⅝-inch casing at 1,975 feet; Magnolia Petroleum Co.'s No. 15 Rogers, drilling at 1,420 feet; McCamey and others' No. 1 Stephens, drilling at 1,300 feet; Noble Oil Co.'s No. 1 Waggoner, showing oil and will test at 1,860 feet.

Clay County: Burton and others' No. 1 Harding, drilling at 610 feet; Cumley and others' No. 1 Cowen, drilling at 1,000

(Continued on Page 76)

West Kentucky-Tennessee

By Vern T. Whitney

BOWLING GREEN, Ky., Oct. 8.—Thirty-four completions, of which 6 were failures and 28 producers with an initial yield of 506 bbls., was the record of the week in the Kentucky Field. This was an increase of 3 completions, 19 producers and 382 bbls. in flush production over the previous week. The wells were distributed by counties as follows:

County—	Comp.	Wells	Prod.	Dry
Barren	9	9	70	0
Owensboro district	5	3	26	2
Allen	5	3	52	2
Lawrence-Johnson	4	4	245	0
Warren	3	2	7	1
Wayne	2	2	32	0
Cumberland-Monroe	1	1	48	0
Metcalf	1	0	0	1
Powell	1	1	8	0
Wolfe	1	1	15	0
Johnson-Magoffin	1	1	5	0
Lee	1	1	8	0
Total	34	28	506	6
Last week	31	18	124	17
Difference	3	10	382	7

Eastern Division

During the past week 10 new wells were started in five separate counties in the eastern division. However, development work is still lagging and no relief seems to be in sight for any great increase in activities for quite a while.

Out of 10 completions in the eastern fields no dry holes were registered. The best well of the week was drilled by Garrison & Townsend on the L. T. Sparks lease, district No. 22, Lawrence County. This completion, No. 3 on the lease started off at 100 bbls. after the sand from 703 to 789 feet, the total depth, was treated to a 100-quart shot. Two other excellent producers were brought in in the same district by the Union Gas & Oil Co. This concern's No. 2 on the C. K. Dobyne farm started off making 50 bbls. at an approximate depth of 800 feet in the Weir sand, while its No. 2 on the W. D. Lester place was estimated at 60 bbls. from the Weir sand at approximately 812 feet.

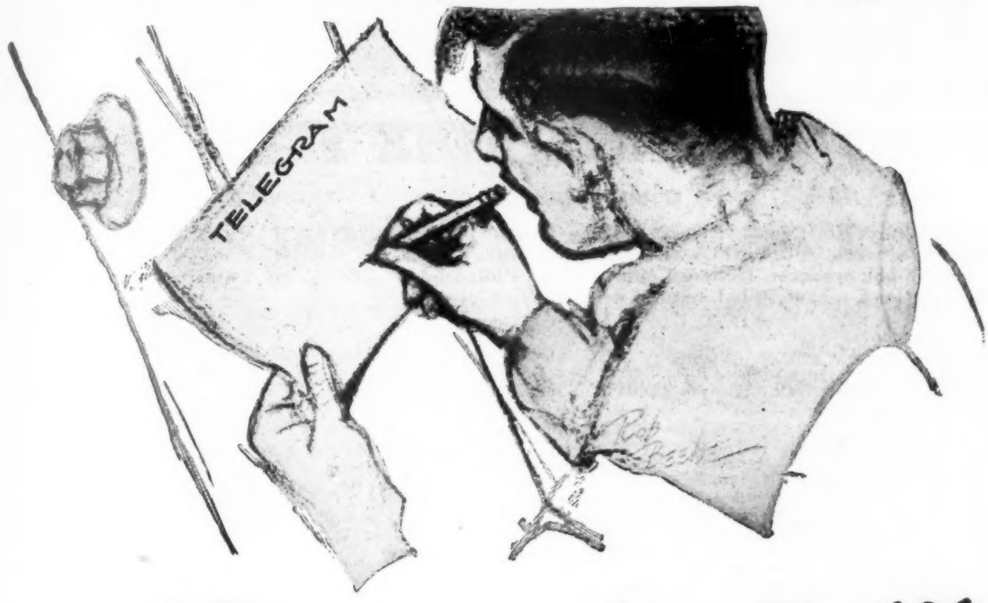
In district No. 32, the Union Gas & Oil Co.'s No. 21 on the P. P. Holbrook pumped 35 bbls. from the Weir sand.

In the North Weir Field, comprised of parts of Lawrence and Johnson Counties, the Union Gas & Oil Co. is rigging up to drill No. 7 Laura Skaggs, No. 34 J. J. Gambill, No. 7 William Lester and No. 1 C. K. Dobyns No. 3 farm. No. 5 Harrison Bailey, No. 28 P. P. Holbrook, No. 2 W. D. Lester, No. 8 L. H. Skaggs, No. 1 John Rose and No. 15 P. P. Holbrook were being cleaned out. No. 5 D. H. Ferguson was drilling on top of the sand; No. 7 J. A. Dials was awaiting a shot; No. 18 Andrew Skaggs was drilling in lime; No. 1 R. N. Sparks was held up with a fishing job; C. K. Dobyns' No. 1 was drilling in lime; No. 13 George Evans is a location.

Wildcat Shows Oil

According to reports, oil has been

(Continued on Page 76)



if you don't like delays specify "JONES"

JONES SUCKER RODS have for years been the standard of all American Oil Fields—They give longer life—cut production costs by eliminating frequent breaks and pulling.

We maintain a corps of experienced field men who cover the East, Mid-Continent and California fields—who work with the Oil Producer to the end that JONES RODS may be made to fit every condition of service.

Do not be misled by foolish claims or mis-statements of fact—bear in mind that sucker rods as made by JONES are a technical product, designed, made and tested by engineers. The chemist, the steel man, the metallurgist, the engineer and the oil producer have combined their knowledge and skill in perfecting JONES RODS.

The steel used in JONES RODS is made of our special analysis—every heat is checked—every rod is tested.

There are no "pipes"—flaws or weak spots in JONES RODS—scientifically made—evenly balanced—they render long life—economical and dependable service under all conditions.

Established 1893

THE S. M. JONES COMPANY
Toledo, Ohio
Mid-Continent Office—601 Wright Bldg., Tulsa, Okla.

Representatives Everywhere There's Oil

JONES ACME Steel SUCKER RODS

Pennsylvania-West Virginia

By D. S. Wakenight

Development work in Trenton Rock, near Newark, Licking Township, Licking County, Ohio, feature of week. Pure Oil Co. well flows and swabs 65 bbls. East Ohio Gas Co. gets 75-bbl. producer, Holmes County, Ohio. Philadelphia Oil Co. and Clifton Oil & Gas Co. have 30-bbl. natural well in West Virginia.

PITTSBURGH, Pa., Oct. 13.—Development work in the Trenton Rock, in southeastern Ohio, located near Newark, Licking Township, Licking County, featured operations in the eastern fields during the past week. Operators holding leases in the vicinity of Newark have been greatly interested in the wells drilling to the Trenton Rock. The Trenton Rock as a producing formation in that locality is a new departure and had its inception several months ago when W. W. & A. T. Wehrle drilled a well on their own farm into this formation and got a producer reported holding up around 30 bbls. a day. Two weeks ago the same parties drilled a test on the Johan Hartman farm to a total depth of 4,430 feet and found nothing but a show of oil at about the same depth it was found in the discovery well.

During the week, the Pure Oil Co. completed and shot in the Trenton Rock pay a test on the Ilena Smith farm. The well responded by flowing over the top of the derrick, and by flowing and swabbing they recovered 65 bbls. the first 24 hours. All indications point to a producer similar to the one on the Wehrle farm. The next well due to get the pay is the Ohio Fuel Supply Co.'s test on the Licking County Fair Grounds. The completion of this well will test the territory in three directions from the discovery well. Although drilled 200 feet below where they found oil in the first well, W. W. & A. T. Wehrle have gone back to the test on the Zartman farm and drilling it deeper. It looks like a forlorn hope to expect a pay so far below where it was found in the well on their own farm. What is known of the Trenton Rock will be the incentive for starting new work and possibly the drilling down some wells that came in light pumpers or dry holes in the Berea grit.

Good Producers in Holmes County

Holmes County had the best completion of the week. It is the East Ohio Gas Co.'s test on the Melissa Gamble farm, located in Lot 10, Hardy Township. This location is 3 miles northwest of Millersburg and 1 mile southwest of production on the Louisa Conn farm. It is good for 75 bbls. a day. In Lot 10, Monroe Township, the same company has a gasser in the Clinton sand at a test on the Charles Shanks farm good for 2,000,000 feet.

Duster in Muskingum County

In Section 21, Jackson Township, Muskingum County, the Pure Oil Co.'s test on the Frank Nethers farm is dry in the Clinton sand. This location is 4,800 feet north of the test on the Luella Shaw farm. In Section 10, Bowling Green Township, Licking County, the Empire Oil & Gas Co. completed and shot in the Clinton sand a test on the W. H. Ridenour farm. It has been spraying oil at the rate of 5 bbls. a day. The Midland Oil Co. completed and shot a test on the John Mack farm. It is a good gasser in the Clinton sand. In Section 7, Liberty Township, Washington County, the Graham Oil Co. has started to drill a second test on the Daniel Schenkle farm.

Dry Hole in Hocking County

In the northeast quarter of Section 11, Falls Township, Hocking County, Kelch Brothers have a duster in the Berea grit at No. 5 on the Martin-Adcock farm. In the southwest quarter of Section 35, Falls Gore Township, Graham Bumgardner & Co. have a light gasser in the same formation at No. 7 on the M. & J. I. Hite farm. In Section 7, Liberty Township, Washington County, James Hadley and others have drilled No. 3 on the James Hadley farm into the Keener sand, good for 10 bbls. a day. In Section 19, same township, William Huntsman & Co. completed a test on the Ora Erbe farm, a very light pumper in the second Cow Run sand. In the northeast quarter of Section 14, Jackson Township, Perry County, the Goble Oil & Gas Co.'s No. 6 on the S. S. Rarick farm, is 35 feet in the Clinton sand and showing for a 10-bbl. pumper.

Duster Quartet

In Muskingum and Noble County, adjoining, a quartet of dusters have been completed. In Section 27, Rich Hill Township, Muskingum County, the Pure Oil Co. completed in the Buell Run sand a test on the James Lyons farm and a second test on the Robert Spratt heirs' farm, both dusters. In Section 7, Center Township, Noble County, John Kemp & Co. have a duster in the same formation at a second test on the John McWilliams farm. In Section 26, E. E. King and others have a duster in the same formation at a test on the A. D. Whraldon farm. In Monroe Township, Holmes County, the Leonard Oil & Gas Co. is drilling at 2,250 feet at a test on the H. C. Bainter farm and now due in the Clinton sand. In Section 20, Madison Township, Perry County, the Planet Oil Co. and others have started to drill another test on the S. B. Dittoe farm. In Section 5, Pike Township, the Calkins Oil & Gas Co. is drilling No. 4 on the W. R. Calkins farm.

Good Gasser in Holmes County

In Lot 15, Monroe Township, Holmes County, Burton, Morgan & Stephens got a gasser in the Clinton sand for 7,000,000 feet a day at a test on the A. E. Mackey farm, one-fourth of a mile southeast of the test on the Charles Darnes farm, near Welcome. In Lot 7, Franklin Township, Licking County, W. W. & A. T. Wehrle have a 5-bbl. pumper in the Berea grit at No. 5 on the James Taylor farm. In Lot 2, Madison Township, the same parties have drilled a test on the Children's Home farm into the Big Lime, showing for a 5-bbl. pumper. In Franklin Township, the same parties are drilling another test on the Leonard Smith farm. Keith Brothers completed a test on the W. E. & O. M. Keith farm in Knox Township, Guernsey farm, a gasser good for 1,000,000 feet in the Clinton sand. The Ohio Fuel Supply Co. is drilling tests on the William Abbott and Henry Cornelius farms. The same company has skidded the rig at its test on the W. M. Worthington farm and starting a new hole. In Newport Township, Washington County, O. S. Reckard & Co. have a 5-bbl. pumper in the Maxon sand at a second test on the H. L. Wick farm. In the northeast quarter of Section 18, Adams Township, Guernsey County, the Ohio Oil Co. has started to drill a test on the James Mercer farm. In Clarke Township, Coshocton County, the Pure Oil Co. has completed another test on the Agnes Hall farm, 1 miles south of the first test and showing very light in the Clinton sand. In Section 17, Bowling Green Township, Licking County, the Central Ohio Gas Co. has started to drill a test on the G. W. Swinehart farm, 1½ miles west on the Empire Oil & Gas Co.'s test on the W. H. Ridenour farm.

In Lot 13, Madison Township, Licking County, W. W. & A. T. Wehrle have completed in the Berea grit No. 7 on the J. T. Watson farm. It is a duster. In Lot 12, Franklin Township, Bishop, Patton and others have a duster in the same formation at a test on the Martha J. Gutridge farm. In Newton Township, Jones & Reece completed and shot in the Berea grit a test on the James McKinney farm, a 3-bbl. pumper. In Newton Township, Rugg & Co. have started to drill to the Berea grit a second test on the Jacob Weiss farm.

West Virginia

Development work in West Virginia does not differ much one week with another. It has now been several weeks since a good producer was completed in these fields. In DeKalb district, Gilmer County, the Star Oil Co.'s test on the H. Gainer farm, is a 10-bbl. pumper in the Big Injun sand. In Clay district, Monongalia County, the Hope Natural Gas Co.'s old well on the Mary A. Yeager farm has been drilled to the fifth sand and is a good gasser at a total depth of 3,400 feet. The Manufacturers Light & Heat Co.'s test on the J. N. Pyles farm, in Liberty district, Marshall County, is a gasser in the Gordon sand. In the same district, the Decem Development Co. has a gasser in the Big Injun sand on the W. A. Evans farm. In Center district, Wetzel County, the Carnegie Natural Gas Co. got a gasser in the Gordon sand at a test on the Pendleton Miller farm. In Center district, the Myers Gas Co.'s test on the James Allen heirs' farm has filled up 600 feet with fluid. The Bridgeport Land & Coal Co.'s test on the Ida Graves farm, in Simpson district, Harrison County, is a gasser in the fifth sand. In Grant district, Ritchie County the Continental Oil Co. has a very light show of oil in the Big Injun sand at No. 6 on the Michael Burke farm. In Center district, Gilmer County, the Hope Natural Gas Co. has a gasser in the same formation at a test on the Irvin Snider farm. In Walker district, Wood County, Rexroad & Davis have a gasser in the Big Injun sand at a test on the William H. Vincent farm. In Sherman district, Calhoun County, W. H. Bickle has a gasser in the salt sand at No. 5 on the J. M. Bennett farm.

Better Than Average

On Nutters Fork, West Union district, Doddridge County, the Philadelphia Oil Co.'s No. 5 on the Thomas J. Smith farm is through the Big Injun sand and a natural producer good for 30 bbls. a day. In the same district, the Clifton Oil & Gas Co. got the same kind of a producer at its second test on the Flora Freeman farm. On Little Grave Creek, Union district, Marshall County, the Decem Development Co. has completed a second test on the Phillip L. Mackey farm, good for 15 bbls. a day in the Big Injun sand. One and one-half miles southeast of the Chemical Oil Co.'s test on Big Laurel Creek, Sherman district, Calhoun County, the Hope Construction & Refining Co.'s test on the Bennett-Stevens farm is an 8-bbl. pumper in the Big Injun sand. In the Plum Run Pool, Williams district, Wood County, Charles L. Smith has a light pumper in the first Cow Run sand at a test on the E. L. Griffin farm. In Hamilton district, Nicholas County, the Hamilton Oil & Gas Co. has drilled a second test on the Craig heirs' farm through the Maxon sand. It is a fair gasser. This and the first test will be drilled to the Big Injun sand, the formation in which the first three wells in this district got their gas. In Clay district, Monongalia County, the South Penn Oil Co. is cleaning out old No. 5 on the Elizabeth Tennant farm, preparatory to drilling in to the lower sands. It was formerly a gasser in the Big Injun.

On Sycamore Creek, Sherman district, Calhoun County, the Hope Construction & Refining Co. drilled its test on the Garrett 19 acres through the Maxon sand, good for 10 bbls. a day, natural. This is a semiwildcat, 3,000 feet east of the test on the P. R. Bourn farm. In the same district, the same company's test on the R. G. Linn farm is good for 5 bbls. a day in the Big Injun sand. In the same district, the Euclid Oil Co.'s test on the Creek Yoak farm is good for 4 or 5 bbls. a day. In Grant district, Harrison County, the Hope Natural Gas Co. is now through the fifth sand at a test on the Sidney Miley farm. It is a small gasser. On Sugar Creek, Lafayette district, Pleasants County, the Bottom Oil Co. has drilled a test on the Thornton Wagner farm through the Cow Run sand, good for 10 bbls. a day. In McKim district, Howard Hall and others drilled a test on the Jack Messer farm through the salt sand and dry. The same parties are drilling a test on the D. Poyster farm and moved in a drilling machine to a location on the H. Pryor farm.

On Carney Run, Center district, Wetzel County, the Myers Oil & Gas Co. drilled a test on the Allen heirs' farm through the Gordon sand, good for 7 bbls. a day. In Central district, Doddridge County, the Carter Oil Co.'s test on the F. P. Dotson farm is dry in the Big Injun sand. On Red Lick run, New Milton district, J. E. Trainer completed in the Big Injun sand a test on the F. P. Burbridge farm, good for 5 bbls. a day, natural. At the head waters of Hughes River, Clay district, Ritchie County, Thomas Lambert's test on the Doak-McCullough farm is a small gasser in the Big Injun sand. In Grant district, on Gillespie Run, the Continental Oil & Gas Co.'s No. 6, on the H. M. Burke farm, is dry in the Big Injun sand. This location is only 40 feet west of the Hope Construction & Refining Co.'s good producer on the Neil Bradley farm. On the same stream, the Hope Construction & Refining Co. completed rigs for tests on the Eliza A. Cain, L. J. Stanley and Andrew Jordan farms. In DeKalb district, Gilmer County, the Pittsburgh & West Virginia Gas Co. has a rig completed on the B. F. Wright farm.

In Otter district, Braxton County, the West Virginia Central Gas Co. is building a rig on the Perry R. Westfall farm. In Coal district, Harrison County, the Camden Gas Co. is due in the Big Injun sand at a test on the Charles Heeter farm. In Lincoln district, Tyler County, L. L. Gorrell is rigging up on the E. R. Rine farm. In Glenville district, Gilmer County, the Star Oil & Gas Co. is rigging up on the A. A. Post farm. In the same district, the Hope Natural Gas Co. is building a rig on the Jefferson Miller farm and has rig materials at a location on the J. L. Allen farm. In Proctor district, the same company has made a location on the N. H. Goddard farm. In Smithfield district, Roane County, W. B. Hector is rigging up on the L. J. Meadows farm. In Center district, Gilmer County, the Hope Natural Gas Co. is building a rig on the E. L. Collins farm. The Hope Construction & Refining Co. has started to drill on the J. J. Garrett farm in Sherman district, Calhoun County. The same company is testing for oil in the Big Injun sand on the L. G. Garrett farm. In Center district, Park Bowser has a shutdown for a cable at a test on the David Mathess farm.

Lincoln County Tests

In Carroll district, Lincoln County, C.

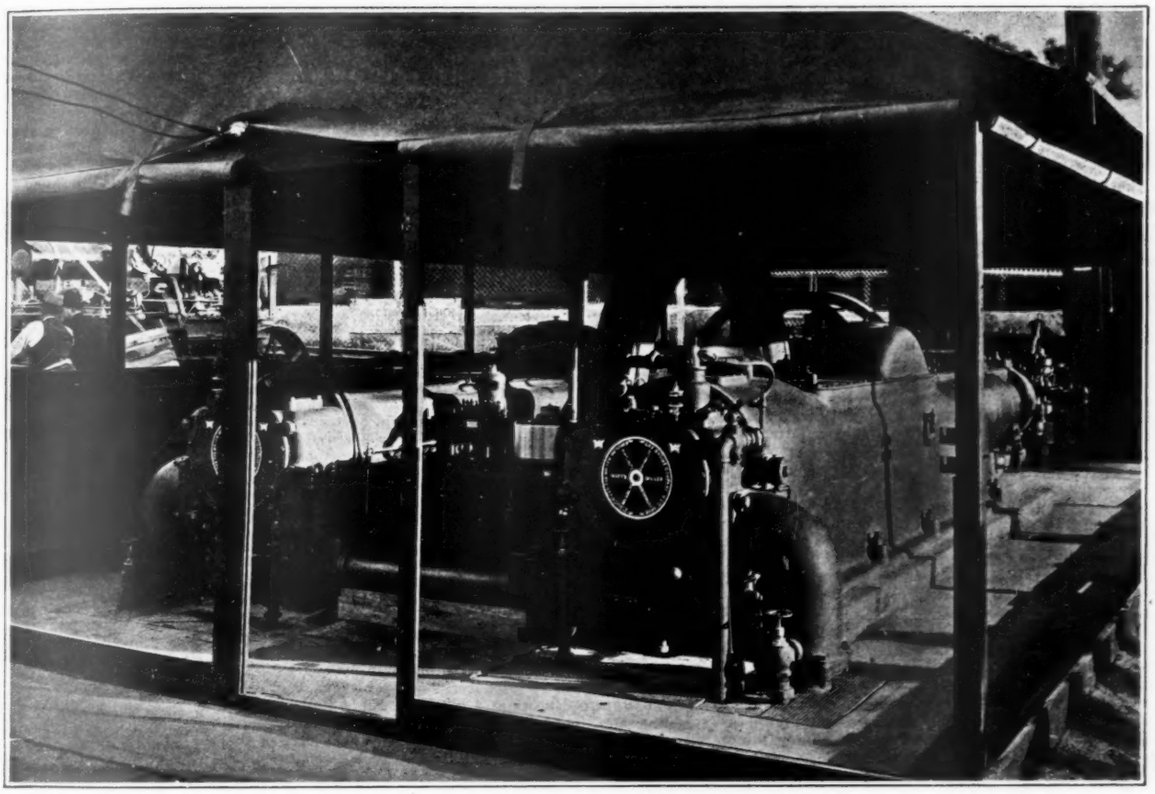
(Continued on Page 100)

The Watts-Miller

Direct Gas Engine Driven Compressor

Manufactured by

THE MILLER IMPROVED GAS ENGINE CO., Springfield, Ohio



The Engine that attracted so much attention and received most favorable comment during the International Petroleum Exposition.

Below are a few of the comments made by men of long experience and ability in the handling of Gas:

"The Miller Company again leads in the art of Gas Engine design and construction."—By an engineer of one of the largest companies.

"A credit to the Gas Engine Industry."—By Engineer and Sales Manager of one of our competitors.

"Nicest operating unit on the grounds."—By another competitor.

"For Strength, Simplicity and Durability it cannot be excelled."—Remark made by Chief Engineer of large Eastern Gas Company.

"The New Miller is an evolution in the Gas Engine Industry."—General Superintendent of Gasoline Department of one of the largest Producing and Refining Companies.

The most frequent visitor was a gentleman who came in and said:

"Well, I am back again. This is about the twenty-fifth time that I have been in here. I simply can't stay away. Some years ago I was connected with the Standard Oil Company and had charge of a number of plants. Later I was with Fairbanks-Morse Company and for the past few years have been engaged in other lines of business but the operation of these machines is so fascinating that I am attracted back here again and again by this Unit's smooth performance."

Upon leaving he remarked: "Well, I will probably be back several times before the close of the exposition."

California Field Operations

By L. P. Stockman

General Petroleum Co. finishes first producer in Rosecrans, No. 1 Vaughn, flowing 1,100 bbls., and Barnsdall second well, No. 1 O'Dea, doing 1,392 bbls. Irregularity of sands suggests three zones. Two small producers at Torrance; none at Dominguez. Shell Co. completes two at Long Branch.

LOS ANGELES, Cal., Oct. 11.—The General Petroleum finished its first producer, No. 1 Vaughn, in the Rosecrans Field during the past week, while the Barnsdall, by completing No. 1 O'Dea, brought its list up to two. The initial production of the General Petroleum's well was somewhat smaller than the Barnsdall's latest acquisition. It came in flowing 1,100 bbls. a day under a pressure of 493 pounds, the oil testing 35.2 gravity and showing a cut of 20 per cent. Because of the large amount of water present, the company has killed it in order to recement the 6¼-inch casing landed at 4,683 feet. The well was drilled to 4,752 feet and finished with a 6¼-inch oil string and 4,650 feet of 2½-inch tubing. Since the cut is undoubtedly due to faulty mechanical trouble, a good well is expected upon its recompletion. The General Petroleum's No. 1 Vaughn is a direct offset to the Barnsdall Oil Co.'s No. 1 O'Dea and a neighbor of the Union Oil Co.'s No. 3 Rosecrans, now at 3,853 feet. The Barnsdall's No. 1 O'Dea came in doing 1,392 bbls. of 38.4 gravity oil which cut 2 per cent. It was drilled to 4,683 feet and finished with a 6¼-inch oil string landed at 4,645 feet. It is flowing through a ½-inch bean under a pressure of 310 pounds. The Barnsdall, in addition to finishing No. 1 O'Dea, spudded in No. 2, rigged up No. 3, and staked a location for No. 4 on the same lease and made good progress with its one driller on the Rosecrans property, No. 2, at 3,429 feet. An additional rig, No. 3 on the latter lease, has already been erected.

The Bankline Oil Co.'s No. 1 Gordon, midway between the General Petroleum's No. 1 Vaughn and the Union's No. 1 Howard Park, is being prepared for production and if a shutoff has been secured it will probably be tanking oil within a week or so. The well has been drilled to 4,698 feet and the oil string landed around 4,670 feet. The Associated is cleaning out No. 1 Haviland, half way between No. 1 Gordon of the Bankline and No. 1 Vaughn of the General Petroleum, at 3,950 feet. Southeast of the latter well, the Associated has landed a string of 8⅝-inch in No. 1 Brockley, an offset on the north to the Union Oil Co.'s No. 1 Gray. No. 1 Gray, of the Union Oil Co. is a small flowing well from 4,153 feet, while No. 1 Brockley of the Associated Oil Co. has been drilled to 4,907 feet. The Associated drilled through the upper sands in order to pick up the deep zone if it existed in this area. Whether or not the company will be successful only the future can tell, as the showings to date have only been comparatively meager.

Southern Rosecrans

In the southern part of the field, proved up for shallow production, the Associated is making good headway with No. 2 Higgins at 3,701 feet, No. 1 Hoge at 3,710 feet and No. 1 Wanka at 3,605 feet. E. J. Miley is drilling ahead in his No. 1 Athens Community at 4,516 feet and in No. 2 Athens at 3,689 feet. The Miley-Marland wells are going ahead, No. 1 at 3,896 feet, No. 2 at 3,901 feet, No. 3 at 3,460 feet and No. 4 at 2,820 feet. The Pacific Petroleum, a Miley concern, is making hole in No. 1 at 4,510 feet and is going ahead in No. 2 at 2,319 feet. The Union, with some 16 drillers to its credit, is going ahead steadily, with No. 1 Chandler, No. 1 Padelford and No. 1 Zins, looking especially good. The company's No. 2 Howard Park, an offset to the Bankline's No. 1 Gordon, is standing cemented in an oil sand at 4,690 feet. It will probably be drilled out within a few days and, barring mechanical trouble, should be on production shortly. It should be followed in a few weeks by another well on this lease, No. 3, now going ahead at 4,460 feet.

In the extreme northern part of the district, the Pan-American is drilling ahead in No. 1 Anderson at 3,050 feet, the Petroleum Midway in No. 1 Ducommon at 3,391 feet and the Shell Oil Co. in No. 1 Leonis at 3,600 feet. Notwithstanding that the Sentinel Oil Co. is reported to be over 71 feet deeper than the Union's No. 1 Howard Park, the company has so far failed to pick up the deep sand found in the latter. The Standard has reached a depth of 4,571 feet in No. 1 Cowan, in the northeastern part, but it still has several hundred feet to go because if production is secured on this lease it should be deep. In the southwestern part of the district, the General Petroleum Co.'s No. 1 Amestoy at 5,320 feet and the Union's No. 1 Gordon at 4,615 feet both look quite doubtful.

Geologists Differ

The Rosecrans Field still affords an excellent topic for discussion among geologists and operators since the interpretations of no two geologists coincide. The irregularity of the oil sands and upper showings has proved a stumbling block to many and for this reason, wells are being put down all over the entire area. The latest and most logical theory is that three definite producing zones exist in the field and this condition accounts for the great irregularity. The deep zone, designated as the Athens sand was proved up by the Union's No. 1 Howard Park in the northern part of the district. The intermediate zone, or Rosecrans sand, was picked up by the Union Oil Co. in No. 1 Rosecrans and by the Superior Oil Co. in No. 1 Maxwell. The upper zone, or Chandler sand, was picked up by the Union in No. 1 Chandler and No. 1 Padelford. Both of the latter wells have made short flows from around 3,800 feet, but their showings did not warrant further tests of this sand. As a result they are being carried down.

Dominguez

There were no new wells finished at Dominguez during the week, although good progress has been made in many, several rapidly nearing completion depths. On its Reyes lease, the Shell cemented No. 8 at 4,150 feet but is still held up with fishing jobs in Nos. 12 and 13. No. 14-A, 17 and 18 on the same property are going ahead. On the Hellman lease, the company is getting ready to swab No. 1 at 5,384 feet, while on the Childs property the fish, which has been holding up progress in No. 2, has nearly all been sidetracked. Nos. 1, 2, and 3 on the Manuel lease, heretofore known as the Homestead tract, are being rigged up. They are all offset wells and for this reason no time will be lost in getting under way. On the De Francis lease, the Associated has just spudded in No. 1-B, but is going ahead quite rapidly with Nos. 2, 4, and 5. The Marland is drilling three holes in proven territory, No. 2 at 3,680 feet, No. 3 at 3,100 feet and No. 4 at 1,700 feet. The United has set a surface string in No. 2 Dominguez at 700 feet. The Union is still working with No. 3 Hellman, an offset to the Shell's No. 1 Hellman in the northern part of the field, in an effort to make a satisfactory producer, but so far has had little succes at 4,263 feet. No. 4 Callender, an offset to the General Petroleum's No. 1 Gardena, also in the northern part of the district, is likewise causing some trouble because of water and, as a result, is off production. No. 4 Callender is, in all probability, affected by edgewater and clean production will be a hard thing to secure. The company's No. 5 Callender is going ahead at 4,786 feet, while No. 6 has just spudded in. On the Carson lease, No. 2 at 4,313 feet and No. 3 at 4,169 feet are both held up with fishing jobs. The Birch Oil Co. has carried No. 1 Humphries, in the southwestern part of the field to 4,980 feet, but the hole is still dry. The Globe Petroleum has filed an official abandonment on No. 1 Vallencinto, which has been standing idle in the extreme eastern part of the area for some time.

Torrance

The Petroleum Securities finished two wells on Kleinmeyer lease "A" at Torrance during the week and, true to expectations, they were rather small ones. The company's biggest well was No. 4 Kleinmeyer, which was put on the beam at 3,820 feet. It pumped 246 bbls. of 17.4 gravity oil which showed a cut of 5 per cent. No. 5 was put on the pump at 3,805 feet and made 230 bbls. of 17.6 gravity oil which cut 10 per cent. They were both finished with 8¼-inch liners, the former carrying 325 feet of perforated and the latter 315 feet. No. 3 at 3,845 feet is being prepared for production, while No. 17, drilled to 3,856 feet, has been tubed and will be swabbed shortly. Nos. 3, 6, 7, 8, 15 and 16 are standing cemented and look good for production probably within two or three weeks. No. 1 on Kleinmeyer Lease B is drilling ahead in a sandy shale at 3,550 feet. None of the wells finished during the week in this district were large and, as a result, the Petroleum Midway's No. 2 Gilman, a 251 bbl. pumper, headed the list. It was drilled to 3,680 feet, finished with a 6¼-inch oil string carrying 423 feet of 60-mesh screen and 3,254 feet of 2½-inch tubing. The oil tests 21.4 degrees and shows a cut of 5 per cent. The company is running in the 6¼-inch in No. 2 Dawson, drilled to 3,450 feet, and expects to have the well on production within a few days.

The Fullerton Oil Co.'s No. 5 Cotton fee proved to be a 710-bbls. pumper of 22.4 gravity oil when put on the beam at 3,750 feet. It was finished with a 6¼-inch liner carrying 508 feet of 60-mesh screen and 2,991 feet of tubing. Although No. 2 Barlow of the same company only made 110 bbls. upon completion, it was no disappointment as only a small well was expected. The oil, testing 16.5 degrees and showing a cut of 8 per cent, is coming from 3,600 feet, the same depth at which the first well on the lease was finished. The Standard Oil Co. completed the first producer on its Quandt lease and secured a small pumper of low gravity oil. When put on the beam at 3,640 feet it made 90 bbls. of 17.2 gravity oil which cut 15 per cent. No. 2 on the same lease is making hole at 3,645 feet and should be ready for a try within a short time. No. 5 Interstate was put on a test after being cleaned out to 3,875 feet, but the company was not successful in returning it to production, as practically all of the output was water.

Sentinel Joughin

On the Sentinel Joughin property, the Standard has four drillers, while its operations on the Marble fee lease consists of five drillers. The Consolidated Mutual's No. 1 Campbell, an east line well, was returned to production and is making a little better than 225 bbls. daily. The General Petroleum has hauled in material and is erecting a rig for No. 1 Pegg, an offset to the Consolidated Mutual's new well to the east. The Lora J. Oil Co. is contemplating a deep test with its well No. 1, now standing cemented at 4,040 feet, and will probably resume work shortly. The Chanslor Canfield Midway Oil Co.'s deep test, No. 1 Francis, is looking quite good at 5,280 feet, although the chances for success are not any too bright. On the Del Amo lease, the company finished a 140-bbl. pumper of 18.2 gravity oil which cut 5 per cent, when No. 22 was put on the beam at 3,638 feet. It was completed with an 8¼-inch oil string carrying 612 feet of 100-mesh screen landed on bottom. Several other holes are being drilled on this lease, but none is yet deep enough for production. The Shell's deep test, No. 2 Kettler, is drilling in a hard shell at 4,900 feet, but so far has shown no encouragement whatever. No. 1 Dolores, an outpost well, is redrilling at 3,560 feet, the bottom of the hole being 3,670 feet. The Superior, in addition to a few clean-out jobs, is drilling several new wells, the most promising of which appears to be No. 53, which is going ahead at 3,725 feet. The Sentinel's No. 13 Joughin at 3,808 feet is also looking good for early production.

The Shell Oil Co. carried off field

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Following is a list of tankers, date departed, destination, kind of cargo and amount in barrels:

Hoven, September 29, New York, crude	73,041
Wm. G. Warden, September 29, New York, crude	110,089
David McKelvy, October 2, New York, crude	74,379
Antietam, October 3, New York, crude	72,353
Francis E. Powell, October 5, Philadelphia, refined	82,450
Agwilake, October 5, New York, crude	90,940
A. C. Bedford, October 5, New York, crude	110,199
Coastwise	
D. G. Scotfield, September 29, Richmond, crude	76,599
Liebec, September 30, Seattle, fuel	75,089
J. A. Moffett, September 30, Astoria, fuel	63,142
W. S. Miller, September 30, Richmond, crude	75,964
U. S. Tanker Neches, October 1, San Diego, fuel	22,140
Frank H. Buck, October 1, Avon, crude	65,142
Cathwood, October 2, Martinez, crude	74,884
Alden Anderson, October 2, Avon, crude	66,905
W. S. Porter, October 2, Linnton, fuel	49,453
D. G. Scofield, October 3, Richmond, crude	76,712
K. R. Kingsbury, October 4, Richmond, crude	82,291
W. S. Miller, October 4, Richmond, crude	74,483
Montebello, October 5, Vancouver, crude	35,215
Mericos H. Whittier, October 5, Portland, fuel	70,291
Exports	
Vancolite (Br.), October 1, Montreal, crude	85,308
Buccinum (Br.), October 1, Japan, fuel	45,223
G. Harrison Smith (Br.), October 2, Chile, fuel	125,128
Cardita (Br.), October 5, Japan, fuel	55,114
Baltic (Dan.), October 5, Montreal, crude	80,173
From San Francisco	
Sun, September 30, Philadelphia, tops	81,460
Swiftsure, October 1, Fall River, tops	77,940
Richmond, October 4, Point Wells, fuel	62,947

honors at Long Beach during the week by bringing in two new wells and recompleting another after redrilling and deepening it. The Shell's best well, which was, by the way, the largest new producer added during the week, was No. 6 Ness, good for 1,400 bbls. a day. The oil, testing 22.3 degrees and showing a cut of 10 per cent, is flowing through a 1-inch bean under a pressure of 420 pounds. It was drilled to 4,735 feet and finished with a 6¼-inch oil string carrying 688 feet of 60-mesh screen. No. 2 Hutton was also a fairly large well, but the output showed a cut of nearly 25 per cent, which rendered the production very unsatisfactory. It was a deep well and came in from 5,000 feet. The initial production was 640 bbls. of 24.9 gravity oil. No. 5 Coseboom was a 146-bbl. pumper of 20.2 gravity oil from 4,904 feet. It was finished with a 5⅛-inch liner carrying 950 feet of 60-mesh screen. The company has two additional drillers on the Coseboom lease, No. 6 at 4,045 feet and No. 7 at 3,684 feet.

On the Alamitos property, the Shell has four drillers, but none of them look good for early production. Davis & McMillan finished a nice producer when well No. 9 was put on production at 4,857 feet after being finished with a 6¼-inch oil string carrying 845 feet of 100-mesh screen. It came in flowing 550 bbls. of 22.8 gravity oil, which showed a cut of 5 per cent. When the first turned loose, the output showed a cut of 20 per cent but it has since cleaned up and may register a still further improvement. The A. & P. Oil Co. put No. 1 Hawkeye on the beam after redrilling and deepening it from 4,062 feet to 4,390 feet, but only secured a small and rather unsatisfactory pumper. The output, 192 bbls., tests 20.6 degrees and shows a cut of 25 per cent. The Federal Drilling Co. is still experiencing considerable difficulty with No. 1 Leedam. When it failed to flow at 4,406 feet, the company began making preparations to put it on the beam. The Petroleum Midway anticipated a good producer in No. 5 Davidson, drilled to 3,600 feet but it tested wet and will require another cement job. The Delaney-Camp Oil Co. has cemented the old Bartholomae Oil Co.'s well No. 3 at 4,840 feet and expects a good producer upon its completion some time during the coming week.

Huntington Beach

The Standard Oil Co. put four wells on production at Huntington Beach during the week but they were all bothered with water. On lease B the company made a test of Nos. 20, 24 and 25. No. 20 pumped 150 bbls. of water and 10 bbls. of oil from 4,433 feet, while No. 25 made 110 bbls. of water and 250 bbls. of oil from 4,584 feet. No. 24 at 4,390 feet was much better than either one of these and, while the output was smaller, 50 bbls. a day, only 10 per cent was water. On this lease the company secured a slight showing of oil and gas in No. 26 at 4,140 feet and is hauling in materials for No. 27. On a test, No. 3 Farnsworth pumped 150 bbls. of fluid from 3,568 feet but it, too, showed a large cut. On the Bolsa Chica property, No. 16 is showing oil and gas at 4,439 feet, while No. 17 is going ahead at 3,760 feet and No. 18 is standing cemented at 3,089 feet. The Petroleum Midway finished cleaning out No. 2 Savage at 5,118 feet and, by intermittent swabbing, can get out 60 bbls. of crude daily. The General Petroleum has started actual work on No. 3 Dabney in the eastern part of the field and the Pan American is finishing rigs for Nos. 3 and 4 on the Johnson lease, also in this section of the field.

The Union Drilling & Petroluem Co. has taken over the Golden Dome Oil Co.'s well No. 1 and will attempt to correct the mechanical trouble and put the well on production if possible.

Santa Fe Springs

There were no developments of particular interest at Santa Fe Springs during the week, as the result of the limited amount of development work being done. The Shell's deep test, No. 6-A Slusher, is still standing cemented at 5,986 feet, the bottom of the hole being 6,113 feet. The Standard is drilling the cement out of No. 3 W. L. Haughton at 4,544 feet, with prospects for only a small pumper at best. The Union Oil Co. finished plugging back No. 2 Farwell from 3,988 feet to 3,415 feet and completed it as a 2,000,000-foot gasser. The Union's remaining operations consist of work on No. 14 Bell, No. 23 Bell and No. 22 Alexander. The Petroleum Midway is working on only one job, well No. 2 on Mattern lease No. 2.

Miscellaneous Drilling

At Rideout Heights in the Whittier Field, No. 2 Strong of the O'Donnell Refining Co. again tested wet and will be recemented within a few days. The Petroleum Midway's No. 1 Pellisher at 4,461 feet, No. 1 Seward at 4,297 feet and No. 1 Witte at 4,682 feet are still suspended, although No. 1 Rideout is going ahead in a gray sand at 4,400 feet. The Ellwood Oil Co., a reorganization of the Montejo-Johnson interests, started work during the week and is cleaning out the latter company's original hole at 2,040 feet. The Mohawk Oil Co. has overcome and drilled through a troublesome boulder formation at 2,800 feet and is again making hole. The Standard Oil Co. is making good progress with No. 1 Patton at 4,545 feet and should begin to pick up some showings within the next few weeks, if the property is to prove productive. No. 21 Home of the same company is standing cemented at 2,754 feet. The Newport Petroleum Co. plugged back its well No. 1 on the Newport district from 4,260 feet to 3,650 feet, but the oil at the latter depth proved to be too heavy to bail. It is not known at present whether the company will install a heating plant to extract this heavy tar but this seems to be the only alternative if production is to be secured from this depth.

The Shell Oil Co. has passed the 5,000-foot level in No. 1 Loomis, a wildcat near Bell, and the prospects of securing production are not very promising. The Shell is abandoning its Los Cerritos test northwest of Long Beach after drilling to 6,285 feet. This hole, located on the Virginia Golf Club at no time showed any indications of production. The C. C. Stahl Oil Association at Downey has run into a fishing job which may result in the loss of the hole, drilled to 4,890 feet. Strenuous efforts have been made during the past week or more to remove the fish, without success. Both the Pan American and Shell are pulling out of the El Segundo district and will charge two dry holes to the profit and loss account. The Pan American started its No. 1 Pacific Southwest during the early summer of 1923 and, while the hole at one time showed up quite well the indications found at 3,850 feet were not productive. The Fortuna Oil Co. followed the Pan American into the field a few months later and, after drilling to around 4,500 feet, turned the project over to the Shell Oil Co. for completion. The Pan American's test was carried to 5,240 feet, while the Shell's Fortuna well was still dry at 5,020 feet.

Inglewood

The Standard's well No. 1 on Los Angeles Investment Lease No. 1 in the company's new Inglewood Field continues to pump around 160 bbls. The present small output from the lease does not warrant the immediate laying of a pipe line and, pending further developments, the company is shipping the production out in tank cars. The Mohawk has put a cement plug in its test well a mile or so away at 1,643 feet and will make a test of the slight showings found at this depth as soon as the cement sets. The 57 Petroleum is still working on its No. 1 Casserini at 4,837 feet but appearances indicate another cement job will be necessary to offset a water shut off. The Standard is working on its several holes in this general area but so far none has resulted in production, except the discovery well. The company's No. 1 Los Angeles Extension is drilling in a gray sand at 6,002 feet and No. 1 Farrell is making hole at 5,400 feet. No. 1 Potter-Smith is going ahead at 4,455 feet, while preparations are being made to spud in on the recently acquired Clara Baldwin Stocker property. Well No. 1 on Los Angeles Investment Lease No. 2 is being held up with a fishing job at 4,015 feet, while well No. 2 on Los Angeles Investment lease No. 1 is standing suspended at 1,050 feet. The Pacific Oil Co. is making preparations to offset the Standard's discovery well and is hauling in materials for the first hole to be known as No. 2 Baldwin. The Pacific's location is 1,350 feet distant from the Standard's initial producer. It begins to look as though the Associated Oil Co. will dry a hole in No. 1 McNeally at La Mirada, as the formation at the present depth, 5,200 feet, is a hard gray sand which has continued for some time and is devoid of any encouragement. At Los Nietos, a few miles away, the Standard is drilling ahead in No. 1 Culp in a hard sandy shale at 4,100 feet. North of the Whittier Field, the Superior's two tests are going ahead quite rapidly, No. 1 at 1,700 feet and No. 1-A at 3,400 feet. In the Sauges-Newball district, both the Associated and Union Oil companies are being delayed by minor matters but drilling operations should be in full swing within a short time.

Potential Oil Field

Notwithstanding that the Shell Oil Co. has drilled two rather unsatisfactory holes at Seal Beach, the company is grading for what is believed will be No. 2 Bryant. This territory should be productive from all indications, as it is right in line and midway between the Huntington Beach and Long Beach fields. Whether or not oil exists in commercial quantities is another matter. Some time ago the Seal Beach Oil Co. and J. B. Dabney drilled deep holes in this area, both of which showed gas and favorable indications. Operations on both holes were suspended, however, because of water trouble. The Shell is making two tests, No. 1 Bixby, which is down 4,780 feet, and No. 1 Bryant at 4,620 feet. Water trouble exists in both and the company has spent several months endeavoring to secure a shut off. No. 1 Bryant has been showing oil colors for some time but it could never be definitely determined whether the oil was alive or due to circulating fluid. Apparently the company has decided to make a third test before pulling out. The area looks favorable and warrants further prospecting. Operators should watch this district as it has the ear marks of another potential oil field.

The San Pedro-Point Fermin Oil Co. is still working with its Point Fermin wildcat, which shows 3,725 feet of hole. There have been no showings of importance noted and this well, located at the base of a cliff on the ocean front, looks like an abandonment eventually. The Beaumont-Midway Syndicate, in Riverside County, is making operations to put its No. 1 on a production test at 4,140 feet, but it does not seem as though the company has much chance of securing commercial production. Work has been suspended on the Pacific Petroleum Co.'s test at Oceanside near San Diego, at 3,006 feet. The Standard Oil Co. is rigging up Nos. 2 and 5 on Section 28-11-22 in the San Emidio district, but it is not known whether the holes are to be carried down or whether they are to be surface indicators to be used as a criterion for further development. Well No. 1 on the same section has been temporarily suspended after making 500 feet of hole.

The General Petroleum is making unusually slow progress with its Commanche Point test on Section 34-12-18 and shows only 650 feet of hole. The Marland's No. 1 Ferguson, an outpost well in the Lost Hills area on Section 28-25-21, is drilling ahead in a sticky shale at 4,500 feet. The Union's No. 1 Wisecarver, a McKittrick wildcat, is drilling ahead at 4,365 feet in a sandy brown shale. The same company's wildcat at Rio Bravo on Section 4-29-25 made good footage during the past week and is at present going ahead at 3,378 feet.

Kern River Bluffs

The Pan American is still held up with a fishing job on the Kern River Bluffs and no success attended its efforts during the week in removing the several stands of drill pipe twisted off in the hole. On Section 14-29-28, the St. Helens recovered a lost bit and is about ready to go ahead. The Central Oil Syndicate Section 36-28-28, has cemented a string of 6¼-inch at 2,350 feet and should drill out within a few days. E. J. Miley secured a satisfactory water shut off in No. 1 Krayenhagen near Coalinga at 4,323 feet and is at present going ahead at 4,350 feet. The General Petroleum is landing a string of 6¼-inch in its Kettleman Hills well, drilled to 5,269 feet. The hole has caused a good deal of trouble

(Contiued on Page 101)

News from Fields of Canada

By Victor Lauriston

CHATHAM, Ont., Oct. 11.—In the Ontario fields, three more deep tests of the Trenton limestone have finished dry. In the Romney area, the Union Natural Gas Co.'s No. 251 John Shanks, about 1¼ miles northeast of the Glenwood Natural Gas Co.'s discovery on the Hugh Shanks, struck salt water near the bottom of the Trenton and the casing has been pulled and the well abandoned. Further west, the Southern Ontario Gas Co.'s test in Essex County, near Arner, finished dry and has been plugged. In Dover East Township, Kent County, Eugene Coste & Co.'s No. 7, Matt Boyle farm, near Bear Line, has been drilled 12 feet into the granite and is dry. No new deep drilling seems to be in immediate prospect, though it is possible the Union Natural Gas Co. and Eugene Coste & Co. may undertake some deep tests in other areas.

In shallow drilling some activity is in evidence. In Norfolk County the Dominion Natural Gas Co., drilling in Middleton Township, about 3 miles northeast of Maybee's Corners, got a small production of gas with good rock pressure in the Clinton formation. The well, previously reported around 200,000 feet a day, is actually good for around 90,000 feet a day, but the pressure indicates possibilities of additional production. It is reported that Contractor Westner is moving in tools and that two more wells will be drilled simultaneously for the Dominion Natural Gas Co. A 2-inch line is being laid to connect the new production with the Maybee's Corners line.

In Tillsonburg, the Caledon Oil & Gas Co.'s town lot test for oil is reported shut down.

In Kent County, E. P. Rowe's deep test on the Featherstone farm, Zone Township, north of Thamesville, is shut down. In Dover Township the Vacuum Gas & Oil Co. is rigging up to pull casing from its deep gasser north of the Petrol wells. This test, drilled some years ago, got a small gas production, but latterly water trouble has developed, and the casing will be pulled and the well plugged and abandoned. In Tilbury East Township, the Stark Syndicate of Detroit has taken over the C. Neith lease about a mile south of Fletcher. This property has about a half dozen oil wells producing on a small scale from the Tilbury sand, and the new owners are reported rigging up for a test.

In Canadian West

In the Canadian west, Maple Leaf Oil & Gas Co.'s No. 1, Section 24-45-8w4, has been finished in the gas sand around 1,775 feet. The well has been shut in with a 1,350-pound control head, and a flow line is being secured to test the well for oil. The official test showed somewhat better than 1,500,000 feet open flow with over 500 pounds rock pressure. The gas has not been tested for gasoline content or carbon black values. No water has been reported, but there are some oil indications. The drilling, according to

(Continued on Page 100)

WIL

Wilson Electric Welding Machines and Wilson "Color-tipt" Welding Wire in actual use at the International Petroleum Exposition, Tulsa, Okla., October 2 to 11.

WILSON WELDER & METALS CO., INC.

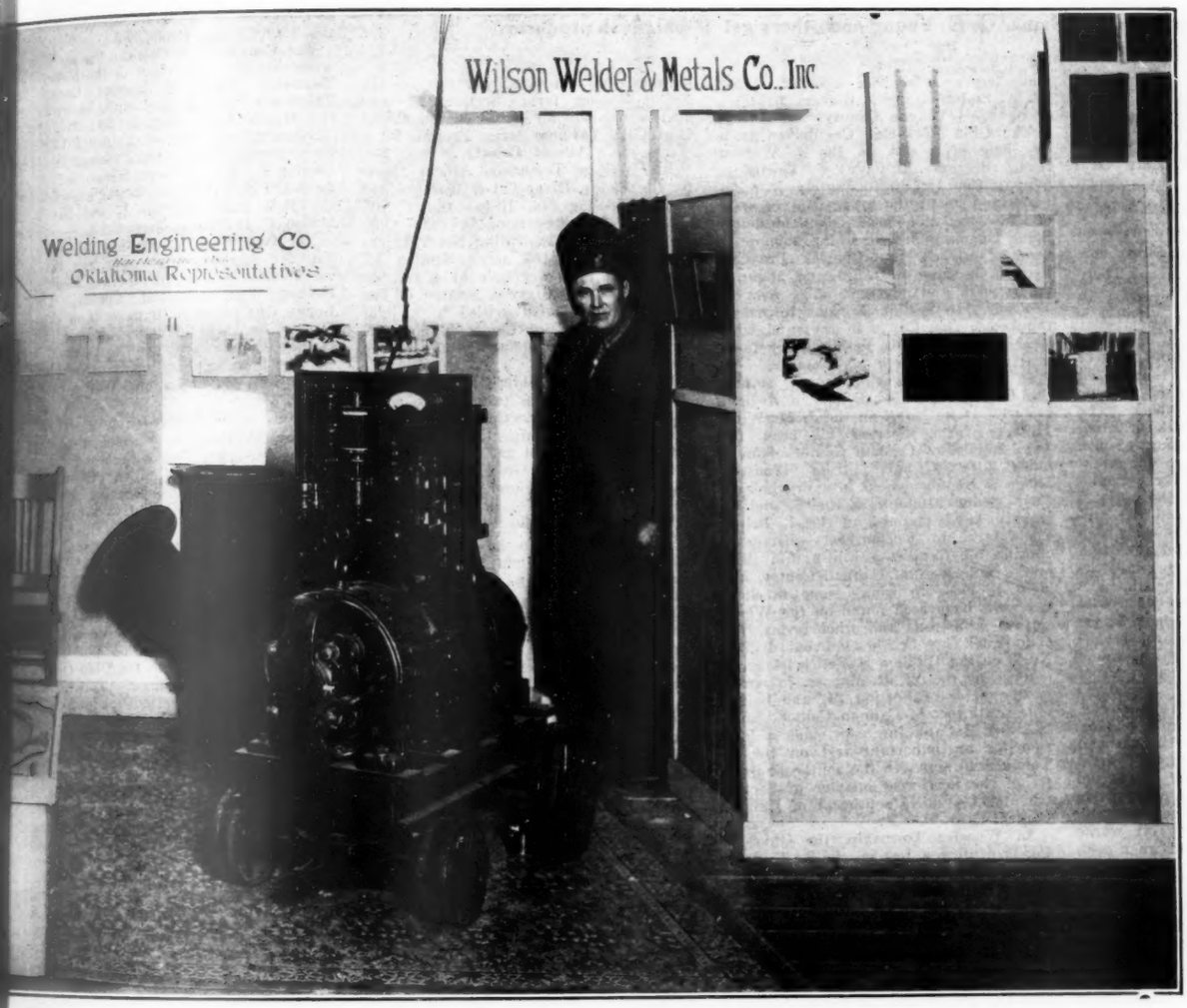
Wilson Bldg. Hoboken, N. J.

Canadian Distributors: G. D. Peters & Co., Ltd., Montreal

WILSON

WELDING MACHINES AND WELDING WIRE

LSON



The Gasoline Engine driven unit on the left of the picture is the machine that is coming into use in the oil fields for tank building.

Write for new catalog.

WILSON WELDER & METALS CO., INC.

Wilson Bldg. Hoboken, N. J.

Canadian Distributors: G. D. Peters & Co., Ltd., Montreal

WILSON

WELDING MACHINES AND WELDING WIRE

Fields of the Central West

By Whit

Not one completion reported during week in old Lima Field of Northwestern Ohio, first time for long period. Pure Oil Co. has 35-bbl. well in Holmes County. Mann, Huber & Tichenour get 30-bbl. pumper in their second test in Gibson County, Indiana. J. H. Young and others get 48-bbl. flush producer.

FINDLAY, Ohio, Oct. 13.—The Central West Field as a whole has experienced a very inactive week in development work, as few wells are reported from Indiana, Illinois, Central Ohio and Kentucky, while the old Lima Field of northwestern Ohio, for the first time in a long period, failed to report even one completion. This is something new for the old Trenton Rock area. There does not appear to be any decrease in the number of drilling wells and rigs.

No new wells are reported from the section of Van Wert County, where wells were recently completed that looked as though a big extension would be made to the county's previous pools. The two wells are in Harrison and Pleasants townships, and at least four or five miles in advance of any of the main producing pools of Van Wert. Paulding County is not showing the activity it did in the early stages and the production of the Payne Field has not been sufficient to offset the investments. High prices were paid for acreage and the wells do not hold up as expected. The oil is of a heavy gravity and when cold weather comes much trouble may be experienced in running it through the lines. Oil of the same grade was found some years ago in the northern part of Van Wert County, and it looked as though a big field had been uncovered, but when the weather got cold, the oil thickened so it could not be run through the lines. There appears to be a strip of this kind in both Van Wert and Paulding counties, while in other parts of both counties a much better grade is found. The low gravity oil works all right when it is warm, but when cold, it is a different story.

Central Ohio

Development work throughout the Central Ohio Field is holding its own, although there were not as many new locations recorded for the week as for some previous. The gas companies are making a strong effort to increase their supply but while a few exceptionally good ones are brought in, the majority are very light and amount to little after being on the main trunk lines for a short period.

The week's review shows that 14 wells were completed, one being an oil well with a flush of 35 bbls., 5 were dry holes and 8 were gas wells. There were but 4 new locations staked out and 15 wells that started spudding. Wayne and Holmes counties are taking the lead, although Athens County is showing a spurt, while Medina, one of the standby counties, is on the wane.

The only oil well reported during the week was the Pure Oil Co.'s No. 1 on the Marquis farm, Section 17, Prairie Township, Holmes County, with a flush of 35 bbls. and about 50,000 feet of gas. In Monroe Township, an exceptionally fine gas well was drilled in by Burton, Morton & Stephens in a test on the A. R. Mackey 98 acres, Section 6, while the East Ohio Gas Co., also got a very good gas well at a test on the Charles Shank 149 acres, Section 10. The Ohio Fuel Gas Co. has started drilling No. 1 on the B. P. and Lena Uhl 100 acres, Section 3. The Central Ohio Gas Co. made locations for Nos. 1 and 2 on the W. A. Smith 50 acres, Section 4.

Wayne County

The Ohio Fuel Gas Co. drilled in a dry hole in a test on the J. Wassen farm, Section 19, Wayne Township, Wayne County, approximately 3 miles north and about the same distance west of Wooster and near Mechanicsburg. Same company drilled a dry hole on a second test on the Charles Pressler, Section 5, same township and about 5 miles north and nearly 2 miles west of Wooster. In Section 4, same township, the Logan Gas Co. is in the sand with its No. 1 on the M. V. McCaskey farm nearly 6 miles north of Wooster.

In Cannan Township, same county, the Creston Oil Co. drilled in a light gas well at its No. 3 on the J. M. Wiles 115-acre farm, Section 22, near the small hamlet of Cannan Center about 9 miles directly north from Wooster. Hulse & Koontz drilled in a dry hole in their second attempt on the L. and G. Rayhill farm, mapped as the J. Brinkerhoff farm, in the southeast quarter of Section 32, 3 miles south and a little over a mile west of Cannan Center, and right in close to where some excellent gas wells have been found on the Whonsetter, Armstrong and other farms. The Ohio Fuel Gas Co. has started drilling No. 3 on the William S. Smith 94 acres, mapped as the W. R. Barnes, in northwest quarter of Section 21, and half a mile southwest of Cannan Center. Klise-Eckstein-McCann interests made a location for an important test on the M. Younker 40 acres, in the southeast quarter of the northwest quarter of Section 23, and 1½ miles southeast of Cannan Center.

In Wooster Township, the Ohio Oil Co. is drilling a test on the L. I. Buchannan 77 acres, mapped as the Staman farm, Section 32.

Medina County

The Central Ohio Gas Co. drilled in a dry hole in a test on the D. T. Tillotson farm, Section 4, Brunswick Township, Medina County. The East Ohio Gas Co. got one of the same kind at a test on the W. C. Strittmaster, mapped as the Hammon farm, Lot 13, York Township, and south of the hamlet of Abbeyville. Dempsey & McGrath abandoned their location for the second test on the W. H. Detrick farm, Lot 14, same township.

In Lafayette Township, the Ohio Fuel Gas Co. has started the drill at a test on the Hipolit Karas 11 acres, Lot 13, and mapped as the Gayer farm.

In Westfield Township, the Logan Gas Co. is drilling a test on the T. J. Longsdorf 147 acres, Lot 2. Same company is drilling No. 1 on the William Schultz 54 acres, in Lot 56, Litchfield Township.

In Harrisville Township, the Ohio Fuel Gas Co. is drilling a test on the Henry Garmen 102 acres, Lot 15, about 3 miles north and west of Lodi Village.

Jackson County

In Lick Township, Jackson County, the Ohio Fuel Supply Co. drilled in a fair gas well in a test on the Guy Smales 40 acres, Section 23, and drilling No. 2 on the Mary B. Emmons 40 acres, Section 36.

In Washington Township, same county, the Ohio Fuel Gas Co. brought in a light gas well in a second test on the Nellie Wilson farm, Section 23, and made a location for No. 3 on the Emma Coal Co.'s 144-acre farm, Section 21.

Athens County

In Carthage Township, Athens County, the Shady River Oil & Gas Co. has started drilling No. 10 on the F. W. Chapman farm, Section 25. The Ohio Fuel Supply Co. is drilling No. 1 on the Dana T. Burns 159 acres, Section 12, and drilled in a dry hole at a test on the Charles Day 6 acres, Section 6. The Logan Gas Co. also drilled in a light gas well in No. 2 on the N. Kinnen 127 acres, Section 31, getting the gas pay in the Maxon sand.

In Troy Township, McBride and others are drilling a test on the Fritz Ahrendt 97 acres, Section 36.

In Rome Township, the Logan Gas Co. has a very good gas well at a test on the Anthony McGraw farm, Section 23, the gas being found in the Maxon sand.

Central Ohio Pickups

The Logan Gas Co. has started No. 3 drilling on the William Ringawalt 252-acre farm, Lot 15, and west a short distance from the town of New Castle. No. 2 same farm, was a light gas well, located in New Castle Township, Coshocton County. Same company's well No. 1 on the Mose Dallere farm, Section 23, southeast a mile or so from New Castle, is delayed by trouble, for when the well was shot the outfit caught fire and destroyed the entire rig. Work will be resumed as soon as new rig can be put up.

The Edward H. Everett Co. is starting No. 1 on the John Patton farm, in Burlington Township, Licking County.

In Benton Township, Hocking County, the Ohio Fuel Gas Co. drilled a very light gas well in No. 1 on the John Vorhis 51 acres, Section 5.

In Grafton Township, Lorain County, the Ohio Fuel Gas Co. is drilling No. 1 on the Leland Wise 118 acres, Lot 52.

In Hanover Township, Ashland County, the Logan Gas Co. is drilling No. 2 on the Perry Black 40 acres, Section 17, and the East Ohio Gas Co. is working at its No. 2 on the Emanuel Kick 60 acres, Section 26, while the Logan Gas is drilling No. 2 George Caragey, Section 26. Same company is drilling No. 1 on the Dora Richards 80 acres, Section 5, Orange Township, same county.

Arthur & Mills have drilled in their test on the Edward Miller farm, Section 22, Cannan Township, Wayne County, but the status of production in either gas or oil will not be known until cleaning out is completed. Their No. 3 on the E. and S. Myers, Section 29, same township, is in the sand.

The Ohio Oil Co. has drilled in its No. 1 on the R. and E. Robinson, Section 30, Prairie Township, Holmes County, and cleaning out the hole, with a nice showing.

Baker Brothers are due in the Clinton sand with their second test on the S. Whitmore farm, Section 9, Cannan Township, Wayne County.

The Pittsburgh Gas Co. struck a gas flow reported at about 75,000 feet in a stray sand at depth of 650 feet in its test on the Thomas McGraw farm, Section 23, Rome Township, Athens County, and now drilling deeper. Stephens & Townan are reported shut down at 920 feet at their second test on the G. S. Parken farm, Section 35, same township.

The Logan Gas Co. has been having some casing trouble at its second well on the H. G. Wolf farm, Section 11, York Township, Medina County. The well is down 3,013 feet. This company has three wells drilling in Plain township, Wayne County, that are about due in the Clinton sand. They are No. 2 J. W. Horn farm, Section 18; No. 1 William Beard, same section, and No. 1 Elmore Eley farm, Section 25. Same company's No. 2 G. F. Gunkleman, Section 2 York Township, Medina County, and No. 1 on the Scott V. Mar, Section 9, Hardy Township, Holmes County, are both due for completion in the deep Clinton sand.

The Central Ohio Gas Co. has several wells due for completion in the Monroe Township Field of Holmes County. There are No. 1 J. H. Lepple, known as the Roach farm, Section 29; No. 1 Thomas Allison, Section 2; No. 1 U. S. Davenport, known as the Anderson farm, Section 5; No. 2 Oscar Kerns, Section 3; No. 1 S. V. Allison, better known as the Bell farm, Section 1, and No. 2 Millen F. Bell farm, Section 10.

The Ohio Fuel Gas Co. has four wells due for completion at most any time, which are located in Wayne, Medina, Holmes and Richland County. The Logan Gas Co. has 10 wells down close to pay sand, in Wayne, Medina and Holmes County, and the East Ohio Gas Co. has 9 wells about ready to complete in Holmes, Cuyahoga and Wayne counties.

Indiana

Mack P. Colt, vice president of the National Supply Co., with headquarters at Lima, Ohio, has pulled off another big transaction by purchasing for the National Supply Co., 110 wells with 11 power plants from the Ohio Oil Co., in the Trenton Rock fields of Indiana. This is the last of the Ohio Oil Co.'s wells and production in that field. The production of the wells was approximately 500 bbls. per month net. Part of this property will be held for production while the balance will be pulled and abandoned. Price paid the Ohio Oil Co. has not been announced. This is the second large transaction made for oil producing wells by Mr. Colt, within less than 10 days, the other deal with the Paragon Oil Co. being for 700 wells. The Ohio Oil Co. drilled several thousand wells in the Trenton Rock area of the Indiana Field, but they have been abandoned from time to time. The Ohio still has numerous producing wells in the Princeton area of southwestern Indiana.

Only four completions are reported from the Indiana fields during the week, all in the Princeton area. In Center Township, Gibson County, Mann, Huber & Tichenour's second test, 600 feet from the south line and 200 from the east line of the O. M. Welborn farm, Section 24, pumped 30 bbls. from 1,413 to 1,430 feet, there being but 4 feet of the pay sand topped by the drill. In the same township, J. H. Young and others' No. 3 on the southwest corner of the Herman Barrett farm, Section 31, showed a flush of 48 bbls. at a depth of from 1,460 to 1,478 feet.

In Hamilton Township, Sullivan County, also in the western portion of the State, Fred Bays drilled No. 5 on the F. C. Springer farm, Section 7, and found a 30,000-foot gas volume at a depth of 590 feet. In the same township, Mansfield and others' No. 1 on the R. Drake farm, Section 30, located 1,120 feet from the south line and 200 feet from the west line of the farm, was a duster at a depth of 818 feet.

Illinois

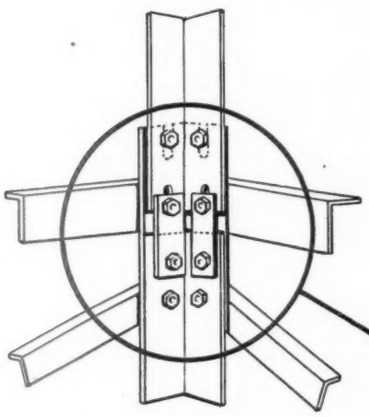
Only one completion was reported from the Illinois fields and that was a dry hole drilled by Thomas Stewart and others on the southwest corner of the T. Bennett farm, in Johnson Township, Clark County, and No. 9 well on the lease. The well was drilled to the usual depth of 540 feet.

In Petty Township, Lawrence County,

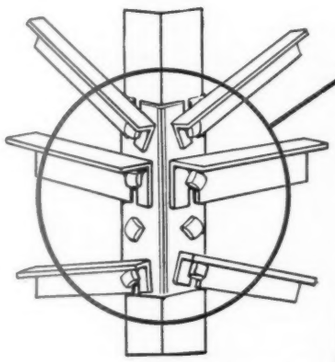
(Continued on Page 100)

PARKERSBURG STEEL DERRICKS

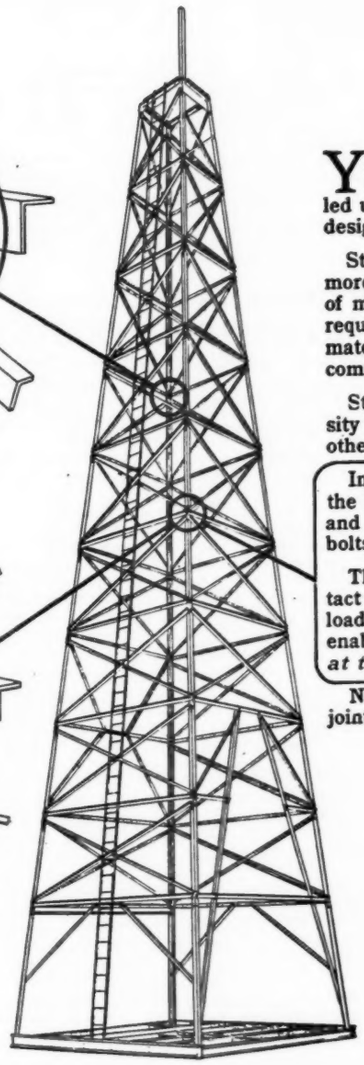
—Perfected
—Patented
—Reinforced



After the nuts are tightened, the joint is secure. Note butt-to-butt contact



Outside view of joint, with girts and braces in position



YEARS of oilfield experience with wide knowledge of every type of steel derrick led us to select a successful *structural* steel design and *improve* it.

Structural shapes are readily available in more sizes and weights than any other form of manufactured steel. Due to this, derrick requirements can be more closely approximated in *structural* shapes than in any other commercial shapes, *and at less expense.*

Structural shapes also eliminate any necessity for the costly connections required by other types of derricks.

In Parkersburg Structural Steel Derricks, the leg joint includes a combination of slots and holes so there is no need to remove bolts for dismantling or re-erecting.

The slots insure a solid, butt-to-butt contact between leg sections which carries the load straight down the derrick legs, and enables the structure to settle completely *at the time of erection.*

No danger of Bolts becoming loose in joints, every Bolt furnished with Lock Washer.

OUR DERRICKS ARE COVERED BY PATENTS

Patent Nos. 852486, 898027, 877624, 946815, 1090955, 1306793, 1341096

Other Patents pending

Ask our nearest representative for detailed specifications

PUMPERS
59′ 0″ x 20′ 0″
75′ 0″ x 20′ 0″

DRILLERS
81′ 0″ x 20′ 0″
88′ 0″ x 22′ 0″

The PARKERSBURG RIG & REEL COMPANY

Main Office and Works, Parkersburg, W. Va. ***New York Office,*** 30 Church St.

California Representatives, BUCK & STODDARD
485 California St., San Francisco, Calif.; Box 720, Arcade Station, Los Angeles, Calif.

District Offices and Distributing Warehouses from which Parkersburg Service is available

TEXAS
*Houston
Breckenridge
Corsicana
Iowa Park
Luling
Orange
Ranger

WYOMING
*Casper

LOUISIANA
*Shreveport
Cotton Valley
Haynesville

KANSAS
Eldorado
Madison

WEST VIRGINIA
Parkersburg
Clarksburg

OKLAHOMA
*Tulsa
Bristow
Drumright
Holdenville
Hominy
Okemah
Okmulgee
Wetumka
Tonkawa
Wilson
Shidler
Stroud
Wewoka

ARKANSAS
*El Dorado
Louann
Smackover
McNeil

MONTANA
Sunburst

COLORADO
Denver

*District Offices

Recent Experiment Station Activities

Review of the Bureau of Mines Work at Bartlesville Superintendent M. J. Kirwan. Investigations Now Under Way

By M. J. Kirwan*
Superintendent Petroleum Experiment Station

The Petroleum Experiment Station at Bartlesville, Okla., was established under the Bureau of Mines by the Secretary of the Interior early in 1918 to investigate methods of producing, refining and handling petroleum, natural gas and their products with a view to promote safety and efficiency in operating methods and conserve natural resources by preventing unnecessary waste.

Bartlesville is the general headquarters for Bureau of Mines employes engaged in petroleum work in the Mid-Continent Field. To facilitate the work, field offices have recently been established in Ardmore, Muskogee, Drumright and Whiteagle in Oklahoma and Eureka, Kans.

In addition to assisting operators with specific problems relating to oil and gas wells, refineries, natural gasoline plants, and the handling of petroleum, the Bartlesville station is actively engaged in work on 16 major problems for the purpose of devising new methods and processes that may be of practical value to the petroleum and natural gas industries. The Bureau of Mines, through the station, also acts in an advisory capacity to the superintendents of the various Indian agencies in Oklahoma regarding problems concerning production and conservation of oil and gas on restricted Indian lands.

Investigations in Petroleum Chemistry

Practically all the Bureau's chemical work relating to analysis of petroleum is now being done at Bartlesville. This includes a study of typical crude oils from various fields in the United States and foreign countries. The chemical and physical properties of crudes are determined, aiding refiners to select crudes desirable for their particular needs. Perhaps the most valuable feature of the method of analysis is that it furnishes a basis for comparing the properties of the various crude oils. To make the information available to the industry at the earliest possible date, mimeographed reports are issued as soon as a crude survey for a certain section has been completed. The data in the various mimeographed reports will later be assembled and published in bulletins.

The second step in the Bureau's crude oil survey has been to select certain crudes for detailed study. The method of carrying on this work gives results more nearly in accord with refinery practice than those ordinarily obtained with laboratory apparatus. Special apparatus, including a 10-gallon refinery equipped with fractionating tower and condensers, has been designed and is now in operation. Twenty gallons of each selected crude is used. Ten gallons is steam distilled and the other ten gallons run down to coke without steam. From each crude run in the small refinery various products such as gasoline, kerosene, gas oil and lubricants are made in sufficient amounts to be tested and compared with the products from other crudes run through the experimental refinery. The importance of the information thus secured, as a basis for comparing crudes, may be realized when account is taken of the great differences between various crude oils, and that few if any of the different crudes are refined under exactly the same conditions in different commercial refineries.

A still more completed study of certain crude oils and their products from the chemical standpoint is now under way. It is hoped this work will aid in finding a more rapid and less expensive method for evaluating crude for refining purposes.

Treatment of Petroleum Distillates

In the course of refining petroleum distillates, especially in the refining of gasoline made by pressure distillation, some form of chemical treatment is necessary to remove gum forming, color forming and other objectionable constituents.

With present methods large losses often result during the course of this treatment. An investigation has been started to determine the characteristics of the objectional compounds and improve on present treating methods or devise new and better ones.

Improvements in methods of refining rank in importance with such major problems as improved methods of finding new oil fields or increasing the recovery of oil. An investigation of distillation methods applicable to refining petroleum is being made to determine what methods of distillation may be most advantageously used in the separation of gasoline and other products from crude oil. Field tests were made in a number of refineries to determine both the fractionating efficiency and thermal efficiency of conventional distillation methods in use. The effect on fractionation of reduction of pressure, the presence of steam and rate of vaporization have been studied. There are overlaps in the distillation ranges of the distillates obtained by most of the present refinery methods, redistillation being required to obtain close cuts. For example the gasoline contains some fractions that should be in the kerosene and the kerosene contains some fractions that should be in the gasoline.

An experimental bubbling type fractionating column, together with a pipe still and separator having a capacity of 50 barrels of crude per day has been installed at the Bartlesville station. Tests conducted with the apparatus indicated that distillation by first vaporizing as a whole all of the distillates to be separated from the crude and then fractionally liquefying them is an efficient method of separation. With the experimental apparatus, cuts were obtained that had no overlap, as determined by the Engler distillation, resulting in a high yield of gasoline. To apply the results on a commercial scale information regarding this method of distillation has been furnished several refinery operators who plan to construct stills to be operated in a manner similar to the experimental still.

The experimental towers and separator used at Bartlesville together with a tubular heater have been erected on the exposition grounds and may be seen in operation at the Bureau of Mines booth.

Separation of Wax From Wax Distillate

Two engineers are engaged in an investigation to improve on the present method or devise new methods of separating wax from wax distillates. This problem is of importance to refineries as it is frequently necessary to remove wax from lubricating stock to make a good grade of lubricating oil. At the beginning it was found that better methods than the ones in use were desirable to test oil wax mixtures to determine their wax content. A new method was developed which utilizes the selective solvent properties of acetone. A description of the method together with general information regarding the occurrence and properties of paraffin wax has been given in a technical paper (published in The Oil and Gas Journal of October 2).

At the present time work on sweating tests and methods of cold pressing are in progress.

Dehydration of Crude Oil

Realizing that about one-fifth of the crude oil produced in the Mid-Continent, Gulf Coast and California fields required treatment to remove water to put the crude in condition acceptable to pipe lines the Bureau of Mines detailed two men attached to the station to study the problem of dehydrating the cut or emulsified oil produced in these sections. The field and laboratory work has been completed and a bulletin covering the findings and recommendations will soon be available for distribution. Cut oil is due, primarily, to two factors: First, the tendency of the crude toward cutting due to the presence of certain colloidal material which acts as an emulsifying agent; and second, agitation in producing. If oil and water are violently agitated by gas as is the case in flowing wells, by air as is the case in air lifts, or mechanically by pumping equipment, cutting action will result. The permanency of cutting probably depends on the presence of colloidal material.

The problem can be divided into two parts: First, to prevent oil from cutting, and second treatment of cut oil. Cutting may frequently be prevented by changing the production method. Traps may be used at flowing wells to separate the oil, gas and water under pressure. In pumping wells the replacement of worn equip-

(Continued on Page 116)

*Read by permission of the director of the United States Bureau of Mines before the International Petroleum Exposition and Congress at Tulsa, Okla., October 8, 1924.

STANDARD OF INDIANA FILES ANSWER TO MISSOURI OUSTER SUIT

JEFFERSON CITY, Mo., Oct. 11.—Denying all the allegations of Attorney General Barrett in his ouster proceedings of September 11, the Standard Oil Co. of Indiana has filed its answer with the Supreme Court of Missouri. The answer filed declares that at no time since the entry of the order of the Supreme Court in 1913 has the Standard Oil Co. of Indiana violated the anti-trust laws or other laws of the State of Missouri, nor at any time failed to observe both in letter and spirit the requirements imposed upon it by the Supreme Court.

The answer is one more step in the Standard oil case which had its beginnings back in March, 1909. On March 9 of that year the Missouri Supreme Court entered a judgment declaring that the Standard Oil Co. of Indiana was guilty of violating the State anti-trust laws and ordering it to be ousted from the State. On June 28, 1913, the court made the ouster conditional, and the company was allowed to remain and do business in the State upon the condition that in the future it obey all the laws of Missouri, particularly the anti-trust laws. The Attorney-General in his ouster proceedings asks that the Supreme Court order of 1913 be vacated and the company be barred from doing business in Missouri.

Kept Gasoline Down

The Standard Oil Co. asserts that in the broad field of its activity as a pioneer developer of more efficient refining methods and in the extension to other gasoline manufacturers of the right, under license, to utilize these methods in which particular alone is complaint now made by the Attorney General, "the corporation has served the public and has voluntarily enlarged the trade opportunities of its competitors, instead of reserving all the benefits of its patents exclusively to itself, as it might lawfully have done." This, the company claims, kept the price of gasoline down and it now costs about the same as when the process was first put in operation, and gasoline prices are more nearly the level of 1913 than the prices of any other commodity in general use.

The company asserts that "it being the owner of the United States patents granting to it the exclusive right to produce gasoline by certain methods which enable the refiner to double the percentage of gasoline derived from a barrel of crude oil and thereby reduce his manufacturing costs while conserving the limited national supply of petroleum, early initiated the policy of granting licenses to other and competing refiners, and year by year that policy was liberalized and extended."

The company further asserts that in the numerous license agreements made by it in the 10 years during which its patent policy has been developing, "it has never restricted nor attempted to restrict or burden, either directly or indirectly, the free distribution wheresoever he would of the petroleum products of any refiner other than the products, particularly gasoline, resulting from the use of the company's patented cracking process."

Cracking Defined

The answer defines "cracking" and declares "that it is not an improved process for making something already being produced—but creates a commodity which previously had never existed in commercial quantity."

"Before the discovery of the Burton process, crude oil was heated in a still and thereby divided into its constituent gases, the most volatile of which, when condensed, being gasoline and the next most volatile being kerosene. After the extraction of kerosene there was a large residue containing no gasoline fractions and used generally as fuel oil.

"The Standard Oil Co.'s patent was based upon its discovery of a method for handling a part of this residue under conditions of great heat and high pressure, so that the very character of the material was changed, and there was derived therefrom a commodity almost identical, in all important characteristics, with gasoline. Such special product could not and cannot exist, lawfully, except as the company may voluntarily authorize the maker to utilize the patented process which creates it. There never was any competition in the sale of such product until the Standard Oil Co. voluntarily created that competition by authorizing its competitors to make it, and the actual result of the company's policy has been to enlarge the national supply of gasoline to such an extent and to place so many competitors of the Standard Oil Co. on an equal industrial basis with itself that it is subject to no criticism, legal or otherwise, merely because it chose in the initial stages of its patent experience to create this new competition only to a limited degree; that its present policy is and has for some time been to grant such licenses even to refiners who operate in the identical territory of and compete directly with the company, such licenses

(Continued on Page 82)

Did You See Them In Tulsa—?

The time and labor-saving CP Products for oil field service; for pumping, for refining, and for extraction plants?

IN supplying compressed air and power equipment to the oil producer for over a number of years Chicago Pneumatic has developed reliable and economical power units suited to the specific requirements of the industry.

Dependability, the prime consideration in all installations, is in every product of Chicago Pneumatic. Proof of its presence is evidenced by the performance of hundreds like them of similar size and type that have gone into service years before.

Remember too, there are Simplate Valve-Equipped CP Compressors in either one or two-stage compression types of ample capacity for every air or gas compressing requirement and CP Vacuum Pumps for extraction processes.

Giant Gas and Oil Engines drive them for a fraction of a cent per brake horsepower hour.

If you didn't get to Tulsa write us direct.

Chicago Pneumatic Oil-Field Equipment

CP Compressors. Single and two-stage compression — belt, steam, electric-motor or oil-engine driven.
CP Gas Compressors
CP Portable Compressors
CP Vacuum Pumps
Giant Gas and Oil Engines —to 250 HP.
Boyer Riveting Hammers
Boyer Yoke Riveters
Little Giant Portable Air Drills, Grinders and Brushes
Compressed Air Sand-Blast and Paint-Spray Outfits
CP Air Hose, Universal Hose Couplings and Pneumatic Tool Lubricants.

Tulsa Branch Office
23 East Brady Street

Chicago Pneumatic Tool Company
Sales and Service Branches All Over the World
6 East 44th St., New York

J-179

CLIFF SMITH is the Chief Engineer of the Kay County Gas Company Compressing Plant in the Tonkawa Field, Oklahoma.

Clark Gas Compressors insure More Power & Greater Compressing Capacity

Cliff Smith Says

"WELL,—They don't make them any better than the CLARK Gas Compressor."

Smith should know what he is talking about. He has had years of compressor plant experience in the Pennsylvania and West Virginia fields before coming west.

"Ask the operating engineer—He knows!"

Kay County Gas Co. plant, Tonkawa Field.

MANUFACTURED BY

Clark Brothers Company

Olean, N. Y.

MANUFACTURERS OF GAS COMPRESSORS AND DRILLING ENGINES

SALES AGENTS:

Gas Engineering and Construction Company

Union Bank Building, Pittsburgh, Pa. 405 Kennedy Building, Tulsa, Okla. Casper, Wyoming

PACIFIC COAST REPRESENTATIVES:

Smith, Booth Usher Company

228 S. Central Avenue, Los Angeles 50 Fremont St., San Francisco

Youngest Oil Field in Louisiana

Cotton Valley Area in, Webster Parish, Possibly Seven Square Miles, to be Tested in Southern Flank Where Production is Yet Problematic

By H. W. Bell and M. W. Grimm*

Cotton Valley, the youngest oil field of Louisiana, is situated in the northern portion of Webster Parish and occupies an undetermined area, possibly seven square miles. It is well within the confines of Township 21n, Range 10w. It is approximately 12 miles west of the Homer Field and 14 miles southwest of the Haynesville Field.

The oil field was indicated by the discovery of gas in the Webb well in Section 13 on August 25, 1922. The first commercial production of oil was obtained by the Invincible Oil Co.'s No. 1 Merritt in Section 14, which came in November 10, 1923.

Up to the end of September, 1924, the field has been developed principally on the northerly flank with increasing activity on the southwesterly and southeasterly flanks of the dome structure. The present oil production (September 25) is about 6,000 bbls. per day. The possibility of obtaining oil on the southern flank of the dome is problematic. A test well in this area is contemplated.

The Cotton Valley region is one of low relief with an average elevation of about 200 feet. Operations in the eastern part of the field are made almost impossible during the rainy season because this portion is very swampy due to Dorcheat Bayou, Davis Slough and Big Slough. The north and west portions of the field are rather hilly and, therefore, well drained.

*Supervisor and geological engineer, Division of Minerals, Department of Conservation, State of Louisiana.

Geology

The entire surface of the field is covered with deposits of recent unconsolidated sands and clays. Therefore, exposures are very poor and unreliable.

The subsurface section, as determined by well logs, is as follows: Eocene beds consisting of Claiborne, Wilcox and Midway; Upper Cretaceous beds consisting of Arkadelphia, Nacatosh, Marlbrook, Annona, Brownstown and Eagle Ford shales or Blossom sand. Production comes from the upper part of the Eagle Ford shales which is equivalent to the Blossom sand.

The structure of the field, as determined by contouring the top of the producing sand, is a dome-shaped anticline with a northeast-southwest trend and has a closure of about 200 feet. There is a steep dip to the northwest and southeast but the dips to the northeast and southwest are more gradual, due to "nosing."

The reservoir formation is usually found to be covered by a cap rock or hard sand. This varies in the different parts of the field owing to local cementation. The gas sand is fine grained and almost white. It varies from hard to soft and contains some shale. In some parts of the field it is found only as a sandy shale. The oil sand is soft and coarse grained and in some portions of the field it contains lenses of shale from one to two inches in thickness. In some parts the oil and gas sands are found together, while in other parts, they are separated by from 1 to 5 feet of shale or gumbo.

The oil was originally in a belt around the structure and between the 2,330 and 2,350-foot contours, with gas above and salt water below it. At the present time, the oil is found between the 2,320 foot and 2,345-foot contours, showing the effect of the lowering of gas volume and the encroachment of edge water. There may also be some water between the gas and the oil, but if so, it is confined to certain parts of the field and due to local conditions. This is true of the Spring Hill structure, 8 miles northwest of Cotton Valley.

The Woodbine sand produces oil and gas in some fields of north Louisiana. In Cotton Valley, this horizon has been found between 3,300 and 3,400 feet, but has not been reached by any wells drilled on the structure. However, it has a possibility for production inasmuch as the sand has been encountered in two wells drilled off structure to the north and west of the field.

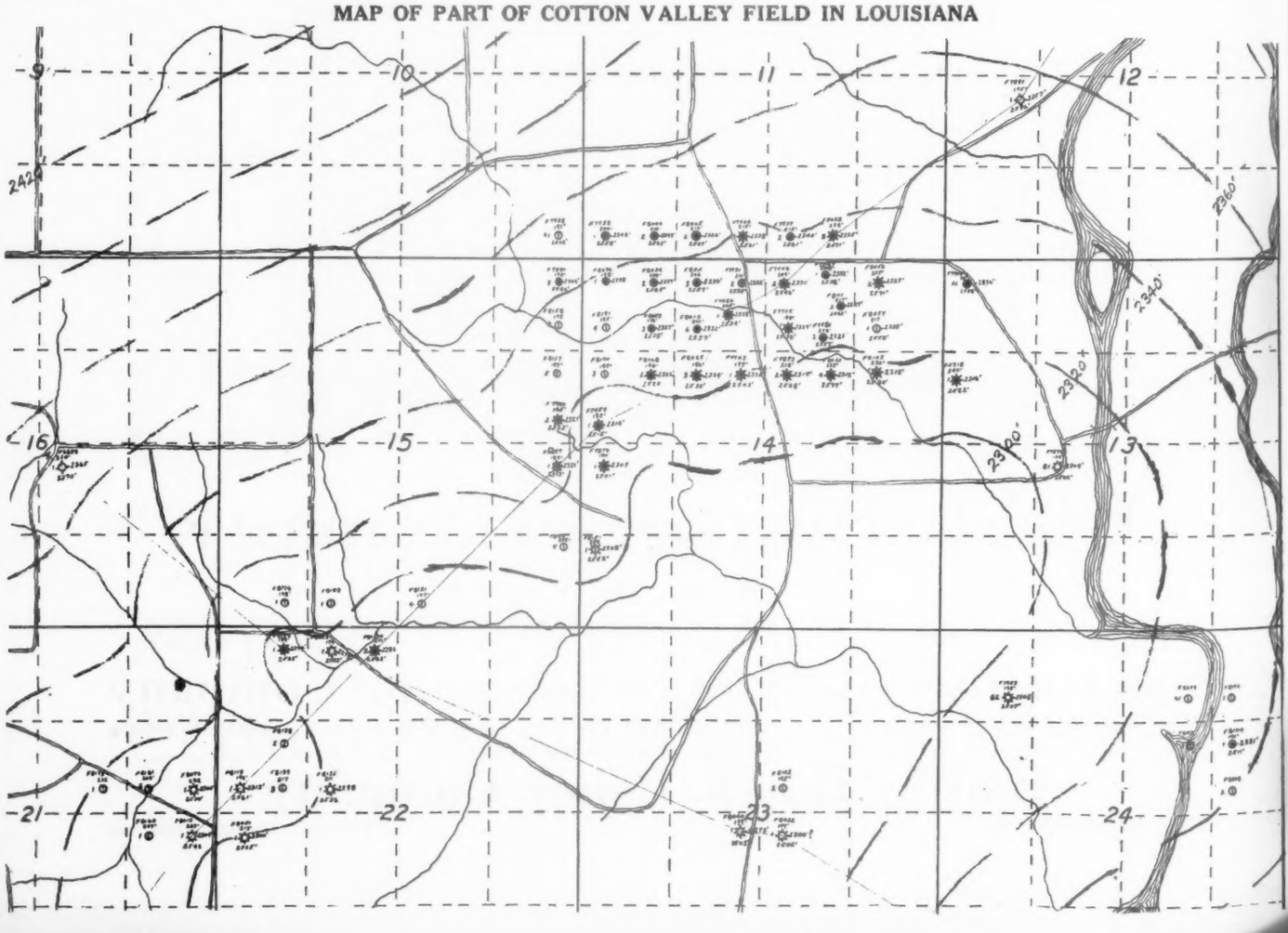
History of Development

Cotton Valley was the third producing structure discovered in the North Webster area. The Gleason and Spring Hill Fields had been discovered in 1921, but had brought in practically dry gassers with the exception of No. 3 Lloyd Harris, which had some production of oil at Spring Hill. When Doctor Webb finished a 30,000,000-foot dry gasser, August 25 1922, on the Merritt farm, Section 13-21-10, very little interest was aroused.

On February 1, 1923, the Ohio Oil Co. completed No. 1 Bodcaw for 35,000,000 feet of gas in Section 15. On October 11, 1923, the Fortuna Oil Co. completed No. 1 S. J. Merritt in Section 14, rated at 45,000,000 feet. The real boom of the field was started November 10, 1923, when the Invincible Oil Co. brought in No. 1 S. J. Merritt, Section 14, for 25,000,000 feet of gas and a reassuring amount of oil. The oil increased rapidly to about 500 bbls. on natural flow. At the present time the summary of wells drilled is 46 producers and 12 failures, with 19 wells drilling. The 12 failures are all off-structure and were instrumental in finding the productive area.

As in all other fields of this region, the rotary was used exclusively at Cotton Valley. The character of the strata drilled corresponds very closely to those of other fields obtaining production from the Cretaceous; that is, generally soft sands and shales with an occasional hard

MAP OF PART OF COTTON VALLEY FIELD IN LOUISIANA



REED ROLLER BIT COMPANY
The Bit with the Bite

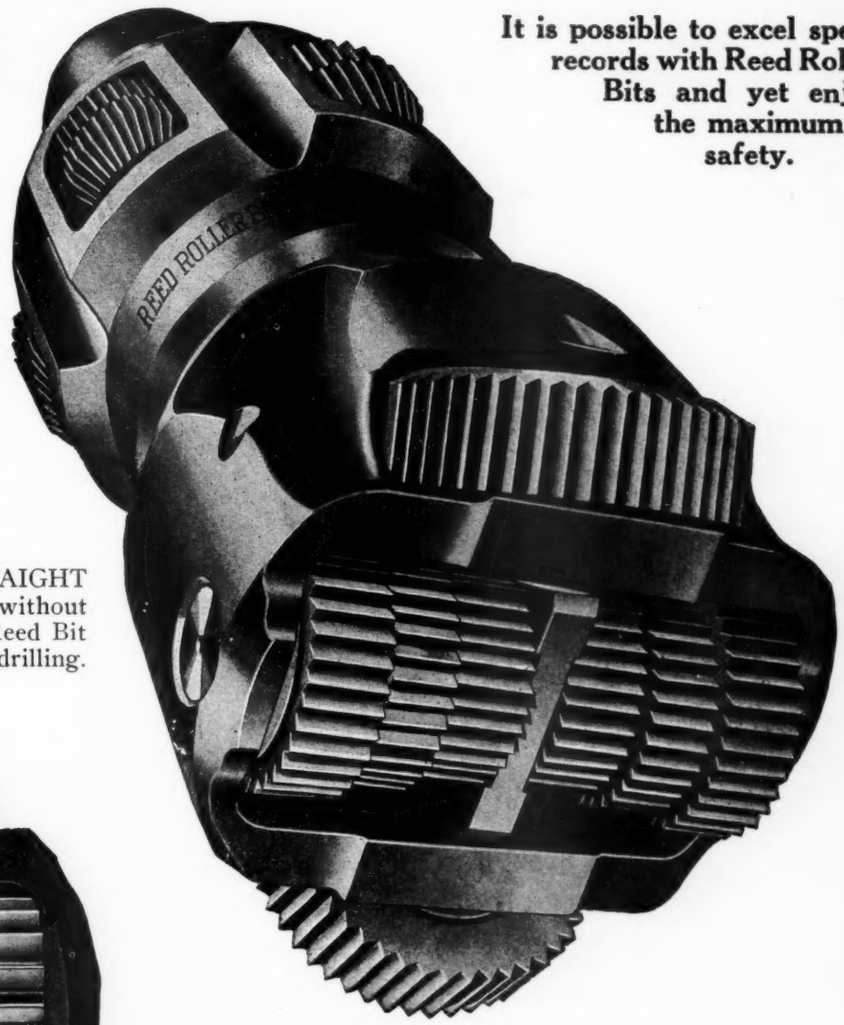
Leaves no junk in the hole

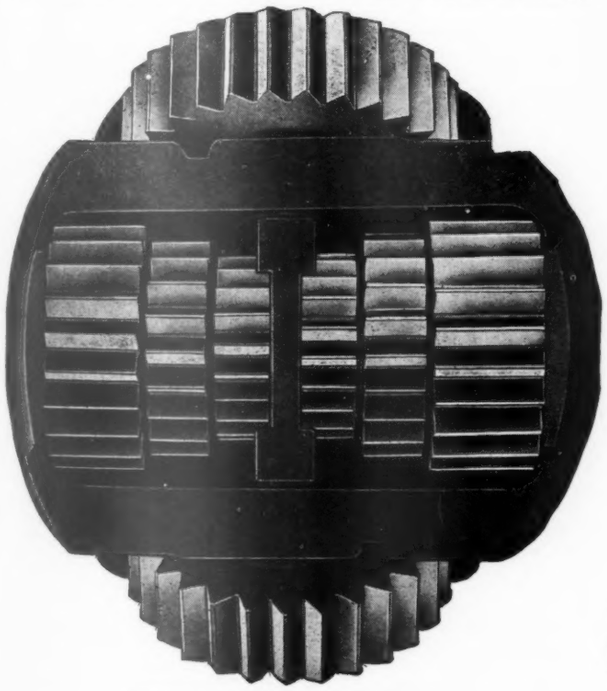
It is possible to excel speed records with Reed Roller Bits and yet enjoy the maximum of safety.

Get
SPEED
With the Reed

Speed is highly desirable and incidentally profitable in operation—IF speed can be obtained with safety. The Reed Roller Bit affords absolute safety with speed.

Notice the mechanical build of a Reed bit which gives all the strength of a forge hammer. Wide cutting surface of bithead is one secret of fast cutting while the reamer gives you full gauged, smooth-walled holes STRAIGHT DOWN, so that casing can be set easily and without obstructions. When a hole is made with a Reed Bit and Reamer it is a finished hole—all at one drilling.





CUTTING SURFACE OF THE BITHEAD

Above is shown view of large bithead with six cross rollers. Smaller sizes have four cross rollers. Arrangement of cutters revolve on different centers and attack rock at different angles—a distinct cutting action that makes the Reed Bit speediest of all rock tools.

Lubricated With Slush Instead of Oil

This feature—exclusive with Reed Bits and Reamers—has practically revolutionized rock drilling.

Two whole years of "Slush Lubrication" in the leading oil fields of the world, is a demonstrated success and Reed bits and reamers have attained a dominant lead over any form of rock drilling known.

The idea is a very simple one; slush is pumped (with full force) through bearings instead of oil, thus clears bearings of grit and sand, preventing friction and eliminating useless up and down trips for refilling lubricator chambers.

"Reed Service Means Now"

We just recently filled a $40,000 order without delay. Plant running 24 hours daily to maintain huge reserve supply in order that shipments can be made promptly.

Reed Roller Bit Co.

HOUSTON, TEXAS, U. S. A.

CALIFORNIA OFFICE: 1341 Santa Fe Avenue, Los Angeles. Phone Tucker 2785. Ask for Mr. E. B. Wiggins.

limestone. The top of the present productive sand lies between 2,480 feet and 2,590 feet below the surface.

The greatest known thickness of the productive zone is about 40 feet, including the partings of shale and hard sand. The sand has generally been found to be overlain by a hard cap rock of varying thickness up to 7 feet. In some wells this hard cap is absent and the sand is covered with impervious shale. Some wells have been drilled into water on account of absence of the cap and not knowing exactly where the top of the pay sand was encountered. The operators have not sufficiently recognized the importance of coring to determine exactly the top of the sand, although this procedure is highly advisable in the majority of cases. Coring also has other advantages, such as determination of gas oil contact, general character of sand, and sometime the oil-water contact. In the vicinity of the edge water contact, the wells should not be drilled deeper than 2,340 feet to 2,345 feet below the sea level.

The initial rock pressure at Cotton Valley was 1,120 pounds, and the first wells, which were gassers, had open flow capacities of from 35,000,000 to 60,000,000 feet. Following the rules of the Department of Conservation, three strings of casing were used, all being cemented. Each joint of last string was tested with 1,500 pounds water pressure. As previously mentioned, the Invincible Oil Co.'s No. 1 Merritt started the oil production November 10, 1923, and there followed a rapid drilling of the northern edge of the field. The pressure was rapidly reduced and wells were then permitted to use only two strings of casing in that area, providing that 450 feet of surface casing was used and well cemented.

Rock Pressure Varied

By the middle of September the rock pressure of the wells varied from 50 to 480 pounds and the Department of Conservation withdrew the three-string rule for the whole field. There is still required 450 feet of surface casing to be jacketed to the surface with cement. This depth gets below the upper fresh water strata and also bonds the casing with enough solid formation to hold the gas pressure in case of gas string leaks.

The oil sand caves considerably and the wells are finished with liners, either perforated or screens. The operators are now using considerably a type of liner or screen that has Keystone shaped perforations (transverse slots) in the walls of the pipe.

The initial production of wells ranged from a few to 10,000 bbls. of oil. The larger wells were situated near the edge-water contact and the smaller producers sprayed oil with gas. The declines of both gas and oil have been rapid and some of the big wells soon went to water. A few wells were plugged back and the edge water decreased.

Some wells have been flowed through tubing when the pressure declined and very few wells have been put on the pump. Both air and gas have been used to lift the fluid, this method being desirable when the fluid volume is large. The volume of gas required for the lift is less than 300 cubic feet per bbl. Some of the gas used is taken from a separator and the cost of the operation is small.

Great Deal of Emulsion

A great deal of emulsion is made at Cotton Valley and this is one of the major items of expense. The combined emulsion and water content ranges from 5 to 98 per cent. There is at least one well in the field that produces clean oil. This makes about 450 bbls. and is situated on the southeastern edge of the field. It is just below the gas contact and well above the edge water. It drilled into the sand only 9 feet.

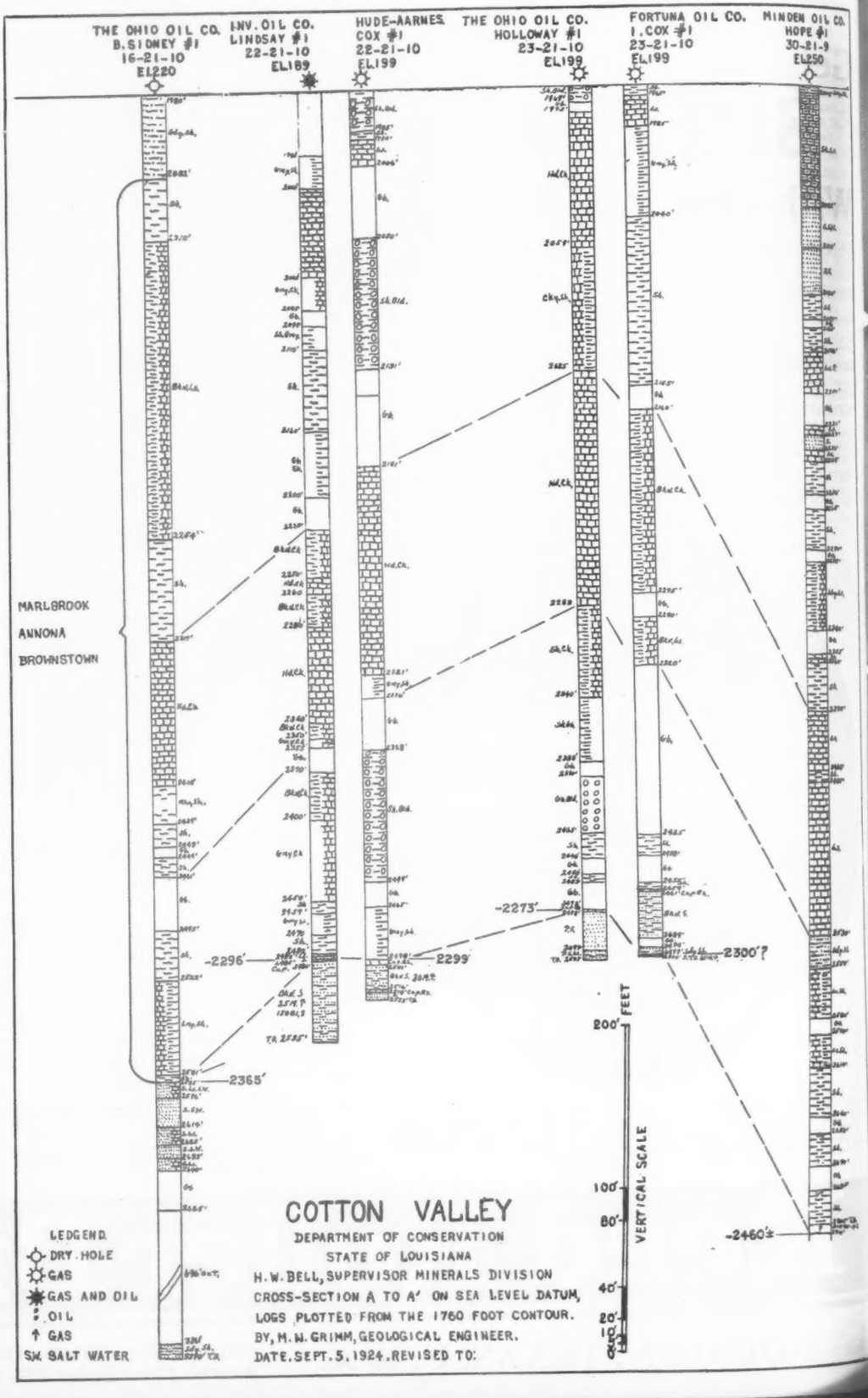
The emulsion is broken up principally with oil-soluble tretolite and to a lesser extent by heat treatment and also by running through earthen pits. The cost of treating the emulsions runs as high as 15 cents per barrel of oil. This cost is burdensome considering the present price of 80 cents per barrel. However, the present method of blowing and treating emulsion seems to be more economical than lifting the fluid with pumps. The latter is out of the question in some cases owing to the large volume of fluid that must be raised to allow the oil to enter the wells.

As in most oil fields considerable gas has been blown into the air while producing the oil. Conservation of such gas is difficult or impracticable for several reasons. In this field it appeared useless to attempt to separate underground the gas and oil, on account of the thinness of the partings where present at all.

LIST OF WELLS LOCATED IN THE COTTON VALLEY FIELD

Company—	Lease	Well No.	Location S	T	R
Alabama Petroleum Co.	J. Gaynor	1	21	21n	10w
Alabama Petroleum Co.	Pardee Lumber Co.	1	24	21n	10w
Alabama Petroleum Co.	Pardee Lumber Co.	2	24	21n	10w
Belchic & Laskey	M. C. Logan	1	2	21n	10w
Cotton Valley Oil Co.	Hodges	1	3	21n	10w
Fortuna Oil Co.	I. Cox	1	23	21n	10w
Fortuna Oil Co.	L. Merritt	1	14	21n	10w
Fortuna Oil Co.	L. Merritt	2	14	21n	10w
Fortuna Oil Co.	L. Merritt	3	14	21n	10w
Fortuna Oil Co.	L. Merritt	4	14	21n	10w
Fortuna Oil Co.	S. J. Merritt	1	14	21n	10w
Fortuna Oil Co.	S. J. Merritt	2	14	21n	10w
Fortuna Oil Co.	S. J. Merritt	3	14	21n	10w
Fortuna Oil Co.	J. T. Pruitte	1	17	21n	10w
Fortuna Oil Co.	E. W. Cox	1	15	21n	10w
Fortuna Oil Co.	W. T. Stanton	1	31	22n	10w

(Continued on Page 82)



Did You Get Your Copy?

To the Men interested in Drilling Derricks

We want each one of you to have a copy of our new catalog.

This catalog shows the features of the Wertzberger Derrick in detail. Advanced design and the points of construction that are uppermost in the minds of oil men are thoroughly brought out.

Write today

Wertzberger Derrick Co. Tulsa, Okla.

EQUIPMENT AND SUPPLIES

NEW STEAM TRAP FOR EXTREME PRESSURE

The Armstrong Machine Works has just stepped forward with a new steam trap designed for extreme pressure and temperature. In this latest addition to the Armstrong line the body and cap are of the highest grade of cast steel, having the following characteristics: tensile strength, approximately 70,000 lbs.; elongation, 25 per cent; carbon, .25 to .30; manganese, .60; silicon, .25 to 30. All strains are removed from the castings by annealing.

The steel trap embodies the same patented basic operating principle that has been established in the Standard Armstrong Trap. As in the standard trap, the discharge is at the top so that oil and sediment are forced out whenever the trap discharges. An air port in the closed end of the inverted submerged bucket permits any air that may enter the trap to rise to the top and be released when the trap discharges.

Realizing the fierce service conditions imposed by high pressure and superheat, the valve parts have been made particularly rugged, and throughout the trap is designed, it is announced, to stand up under the most severe conditions. The valve parts are noncorrosive chrome steel, machined from bar stock, then heat treated. The valves are furnished with orifices suitable for pressure up to 500 and 600 lbs. or higher in special cases. The cap is bolted to the body with eight to 10 large bolts, depending on the size of the trap.

After the trap is completed, it is hydraulically tested to pressures up to 3,000 pounds to insure tightness of castings, joints and valves. The steel body trap is also made for pulsating pressure service. The trap is described in a new bulletin issued by the manufacturer, Armstrong Machine Works, Three Rivers, Mich.

NEW DRILLING RECORD IN THE LULING FIELD

A record was made when No. 13 Rios of the United North & South Oil Co., in the Luling Field, was completed to the pay sand at about 2,200 feet in five days and 19 hours by the Waggoner-McKinley drilling organization.

This record was made with a new No. 6 Titusville Acme four-speed rig, on its first well and therefore, working comparatively stiff. Every joint of the drill pipe had to be made up separately and some time was lost in making minor adjustments.

Herewith presented is the combined crew that made the record. E. W. Hargrove, B. F. Bissonnet, S. G. Uzzel, driller; O. B. Jennings, C. W. Evans, J. R. Myrick, H. L. Rudolph, driller; V. E. Tarbutton, R. Hathaway and W. O. Head. H. W. McKinley and A. F. Waggoner were the contractors.

WELL PULLEY HOIST

The Emsco well pulling hoist, made by the Emsco Steel Products Co., Los Angeles, Calif., is replacing other equipment for pulling rods and tubing in many fields, according to recent announcement by the company. The drum of the hoist is constructed to carry either sand line or casing line. It is fitted with a cone clutch and is said to solve many of the troubles of well pulling. The Emsco chain drive attachment for sand reels has attracted much attention. The clutch is reported taking hold easily and so designed that it will slip before breaking the line if the bailer hangs up in the hole.

PIPE PRICES ADJUSTED ON NEW BASES; STEEL BUYING AGAINST CONSUMPTION

By B. E. V. Luty

PITTSBURGH, Pa., Oct. 13.—The two Youngstown pipe mills, Youngstown Sheet & Tube Co. and Republic Iron & Steel Co., have formally announced that in future they will sell pipe made at Youngstown on the Pittsburgh or Lorain base, to meet the selling of the National Tube Co., which recently announced it would sell its product made at the Lorain, Ohio, works at the same base, Lorain, as it has hitherto had, and still has, f.o.b. Pittsburgh district mills.

As reported a week ago, the Youngstown Sheet & Tube Co. has announced base prices at its Evanston and Indiana Harbor plants at two points higher price than the Pittsburgh base.

Thus there are now three prices for pipe, 62 per cent basing discount f.o.b. mill Pittsburgh district, 62 per cent f.o.b. Lorain mill and 60 per cent f.o.b. Chicago district mills. When mills are not filled up and there is thus all around competition, the buyer will secure pipe at the base price plus freight from the nearest mill. Producers will have to equalize freights in some cases to get business, sometimes paying more freight than is actually charged. Should the nearest mill be filled, then the buyer may have to pay freight from the more distant mill, but in no case will the price be higher than hitherto. In many cases there will be at least a little saving to the buyer.

Seasonable Quiet

Business in tubular goods generally has been rather quiet in the past week. Demand for oil country goods has been decidedly light, partly on account of the season of year and partly on account of the oil situation, which tends to discourage drilling. Buying of merchant pipe by jobbers has been fair.

The finished steel markets taken as a whole show a slight increase in activity in the past week or two, following a little dip. In general, the buying since the first of this month has been as heavy as it was in the corresponding period in September, and thus well ahead of the average in either August or July.

The steel industry in general continues to operate at between 55 and 60 per cent of capacity, as it has been doing since late in August. Production is against actual current consumption, buyers neither drawing upon stocks, as they have had extra stocks to draw from for three months or more, nor showing any disposition to accumulate stocks, as it is plain they will be able to secure prompt deliveries in future whenever they choose to place orders.

Steel Prices Steady

Steel prices in general, i.e., base prices in the general Pittsburgh territory, have shown no change of any consequence for several weeks, being steady enough to resist declines but not strong enough to work up even a trifle towards higher levels. Abandonment of the Pittsburgh Plus system of selling has resulted in lower prices on many commodities at remote points. With the exception of a few lines an entirely new market structure is being built up. There is much complaint that the change was forced upon the trade. During the course of the Pittsburgh Plus case before the Federal Trade Commission those who expected to be benefited were heard from. Now that the change has occurred, those who feel themselves injured are being heard from. Independent steel producers are complaining rather strongly, saying that the new order of things gives the Steel Corp. an advantage over them. Many buyers are complaining, on the ground that certain of their competitors are given a fresh advantage, by securing lower prices.

There is a large crop of rumors about independent steel companies merging so as to have different bases of supply to meet the new situation but there is no assurance that anything will come of these rumors, which are a natural outcrop of the times. Possibly independents will simply restrict their sales areas whereby the steel markets will be more localized than formerly.

KANSAS CITY PLANT NOW BEING ERECTED

KANSAS CITY, Mo., Oct. 11.—This winter will see the new tank manufacturing plant of Black, Sivalls & Bryson, Inc., in operation in the Centropolis district of Kansas City, on a 10-acre site. The steel frame for the plant will be under construction this month, the Kansas City Structural Steel Co. having the contract.

The new building will be 488 feet long on its longer side and 388 feet on its shorter. The building will be 180 feet wide, with three 60-foot aisles. The company's engineers estimate the maximum capacity of the Kansas City plant will be 20,000 tons of steel annually. About 200 men will be employed. A. H. Black, now of Independence, Kans., president, will exercise direct supervision over the Kansas City plant. Individual members of the firm started in the tank business more than 40 years ago in the eastern oil fields. When the Mid-Continent fields were opened, the members of the company came to the southwest and joined their resources into one company. The firm grew until it had 45 active branches scattered over the country.

Active officials of the company are A. H. Black, Edward Black, of Tulsa, James Sivalls, W. G. Bryson and Glenn Skinner of Bartlesville, Okla.

NEW COMBINATION IN AIR STARTING UNIT

A new improved air compressor set, especially suitable as an air starting unit for larger gas and oil engines, has recently been developed and put on the market by the Western Machinery Co., Los Angeles, Cal. This "Tye CE" unit consists of a vertical 4-inch by 3¼-inch air compressor driven by a 4-inch by 5½-inch vertical gasoline engines. Both pistons are connected to the same crank shaft which gievs a very compact and flexible unit. The air compressor valves are light steel discs, permitting to run the set up to 1,000 R.P.M., although the normal speed is about 600 R.P.M. It requires only 15 to 17 minutes to pump up to 150 pounds per square inch air tank of 24-inch diameter by 60 inches high, sufficient to start a 160 H.P. gas engine. However, this compressor set can pump air up to 225 pounds.

The main bearings are provided with high grade babbitt bushings, easily exchangeable, although the exceptionally large working surfaces reduce the wear to a minimum. The lubricating system of the main bearings, pistons, wrist pins, cam shaft bearings, and cam gears is of the splash type—simple but effective and reliable. Ignition is produced by a high tension magneto direct driven by the crank shaft. Water cooling is effected by a small plunger pump, actuated by a bronze eccentric from the cam shaft. The Western Machinery Co. has sales and service branches at Tulsa and Okmulgee, Okla., Bakersfield and San Francisco, Cal.

U. S. STEEL CORP. BUYS CYCLONE FENCE CO.

The consummation of negotiations which have been under way for some time, have now been concluded, whereby the properties of the Cyclone Fence Co. have been purchased by the United States Steel Corp. The transfer of the Cyclone properties includes their factories at Waukegan, Ill., and Cleveland, Ohio, also plants at Fort Worth, Tex., and Newark, N. J.

Through the acquiring of the Cyclone Fence Co. by the United States Steel Corp., the corporation is entering into a phase of the fence manufacture not heretofore practiced by them. It is understood that no change in policy is contemplated, the business to continue under the name of the Cyclone Fence. Co., carrying on, with the exception of its principal officers, under its present organization as a subsidiary of the corporation.

During 1903 the Cyclone Fence Co. commenced operations in Waukegan, Ill., with a capitalization of $25,000. It occupied a small building at the foot of Madison Street, which was added to as the business warranted, finally outgrowing these quarters (now occupied by the Franklyn R. Muller Co.) and chose the present location of 8½ acres in North Chicago, Ill., erecting the present plant. Its capitalization was increased in 1906 from $25,000 to $100,000; in 1914 from $100,000 to $750,000; and in 1915 from $750,000 to $1,000,000, and later in the same year it was increased to $1,500,000.

During 1915 the Cleveland Cyclone Fence Co. of Cleveland, Ohio, was purchased and in 1919 the Texas Anchor Fence Co. of Fort Worth Tex., was added. In 1922 the company purchased a site in Newark, N. J., and erected a very modern and substantial manufacturing building.

J. P. Arthur has been its president and general manager since its inception. In 1914 chain link property protection fence was added. The last couple of years have marked a further development through the perfection of a catch-all basket, and machinery for its manufacture; also, the inauguration of a chain link wire fabric, galvanized or zinc coated, after it is woven.

SODIUM PEROXIDE USE TO REMOVE PARAFFIN

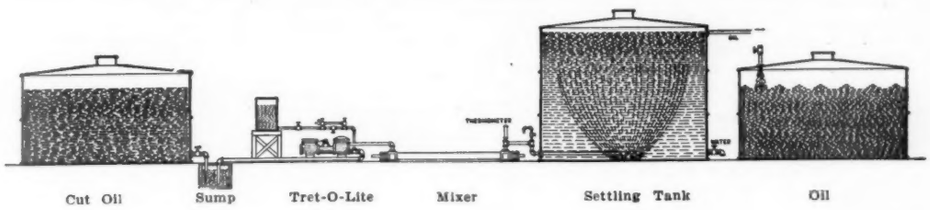
The Department of the Interior, through the Bureau of Mines, has been experimenting with the use of sodium peroxide for the removal of paraffin from oil wells. From 100 to 200 pounds of the reagent are introduced into the well either by dumping it in at the top or by putting it down in wire cloth, tin or glass containers. Water is also run, if the well does not already contain water, for water is essential to the reaction.

Experiments by individual operators in the Appalachian and Mid-Continent Fields increased production of some wells from 50 to 100 per cent by cleaning them out with sodium peroxide.

Upon immersion in water, this reagent generates intense heat and liberates oxygen which supports combustion. Hydrogen and oxygen which are liberated through the decomposition of the water also burn.

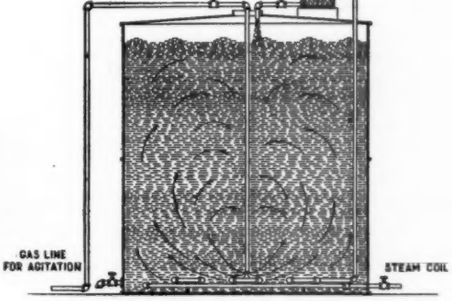
Sodium peroxide is dangerous in that it sets fire merely upon contact with water or damp objects. The use of this reagent would be especially dangerous around wooden derricks or other inflammables structures. In shipping and handling it before using, extreme care must be taken to keep it from contact with water or inflammable substances that are moist. Approximately $30 per 100 pounds is the cost of the reagent.

Typical Tret-O-Lite Installations



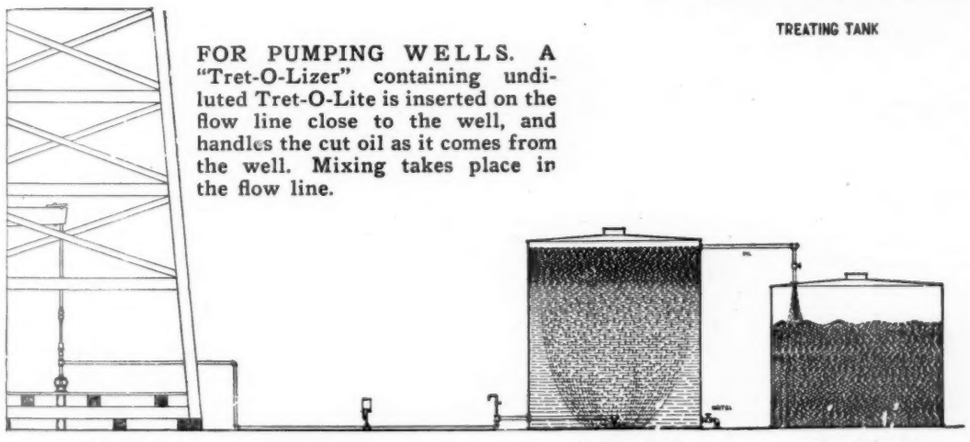
LINE PLANT. This type of plant can treat 200 to 20,000 or more barrels of emulsion per day, pumping it from storage. Mixing takes place in the mixer and discharge line.

TANK PLANT. Tank plants are recommended where only 10 to 1000 barrels of emulsion are to be treated at a time. Tret-O-Lite is fed in by gravity from a small reservoir, and agitation is accomplished with gas or compressed air.



TREATING TANK

FOR PUMPING WELLS. A "Tret-O-Lizer" containing undiluted Tret-O-Lite is inserted on the flow line close to the well, and handles the cut oil as it comes from the well. Mixing takes place in the flow line.



Ask for our book, "TRET-O-LITE," diagramming and explaining other types of installations.

WM. S. BARNICKEL & CO.
St. Louis, Mo.
Offices and Plant: Webster Groves, St. Louis Co., Mo.

Tret-O-lite
Reg. U. S. Pat. Off.

146

NATURAL GAS DEVELOPMENTS

UNIVERSITY COURSE FOR GAS METER MEN

OKLAHOMA CITY, Okla., Oct. 13.—Shortly after the gas metermen's short course was put on at the University of Oklahoma, May 12, 13 and 14, the Oklahoma Utilities Association sent request to all who attended the course to submit suggestions as to how the course for next year, to be held May 5, 6 and 7, can be improved. These suggestions were turned over to John H. Baxter, Oklahoma City, gas engineer, Oklahoma Gas & Electric Co., chairman of the committee. Mr. Baxter carefully analyzed these suggestions and incorporated them with other suggestions in the following paper, read before the mid-year conference of the Gas Division, Oklahoma Utilities Association at Tulsa.

"I have just gone over suggestions turned in by different men who attended the gas meter short course at the University of Oklahoma, and find that the following suggestions seem to predominate. The first thing that we will endeavor to do at the next school is to have complete equipment, including tools and provers for the repair and testing of each type of domestic meter. The different meter manufacturers have signified their intention to furnish this equipment, and also have a man present who is familiar with the repair of the meters they manufacture. There will be added to this course the subject of measurement of gas in large volumes, using the orifice meter. There will be orifice meters of all different types, and a man familiar with the repair and upkeep of each particular piece of equipmnt. In addition to orifice meters, all the leading types of proportional meters will be taken care of. Suitable air blowers have been arranged to take care of the testing necessary to be done on proportional meters. Actual demonstration work by competent men will be handled in this way. It is our desire that only old meters are to be used in the school in teaching the men to make repairs. We will endeavor to show how to detect different faults in meters by actual demonstration, and how to remedy this condition.

"Another feature of this school will be the subject of carrying capacity of high and low pressure gas lines. Also how the planning for future piping in a city should be handled. There will be advice given on regulator stations and how to plan for future regulator stations. In this connection, we will take up the problems ordinarily encountered by gas companies during the heating season, and try to solve several representative cases. There will be a demonstration given before the whole assembly in how the specific gravity of gases should be determined. This will probably be taken care of in two ways; either by using the gravity balance, or the specific gravity bottle.

"It is our desire to collect data on every piece of equipment generally used by a gas company. This will include the listing of several different types of meters, pressure regulators and recording gauges. It is our idea to get all the information possible from different gas meter manufacturers regarding their particular equipment. We hope to get sectional views of meters or any illustrations they may have which will make it easier for the users to order new equipment or in ordering repairs for old equipment. Such material as part list sheets listing parts by name and number and details for ordering will be included. It is our idea to make this information available on sheets of Lefax size so that each man desiring special information on a piece of equipment will only fined it necessary to get the sheets he is interested in.

It is our plan to start this school on Tuesday instead of Monday, and we will make the first day cover all subjects of general interest to gas men, and the remaining days of the course will be given to special class room work on nearly every kind of equipment used by gas companies. Another thing will be that each lecture period will not cover more than 1¾ hours' time, and there will be definite recesses arranged of possibly 20 minutes between classes.

"It is our plan to include certain lectures on safety methods generally governing a gas company's operation, also the public relations side. We want to cover such subjects as will be of the greatest value to the gas utilities. It is our desire to help the gas companies on problems of leakage and how it may be best to correct it; in other words, to say that the largest amount of leakage cut down at the smallest cost, special problems, involved in the measurement of gas in large quantities, how domestic meters should be handled and the proper provision for their protection against the weather."

CARBON BLACK PLANT TO BE BEGUN SOON

CHATHAM, Ont., Oct. 11.—The first definite steps toward establishment of a carbon black industry in the Canadian West are being undertaken by Canadian Petroleums, Ltd., of Edmonton, which early in the year secured a Government permit to manufacture the product from the waste gas production of the Peace River Field. Under the Government regulations such a permit is granted only where there is proven production of natural gas from areas leased for oil and gas and where there is no present or reasonably prospective market for the sale of the gas for domestic or industrial uses. The Canadian Petroleums permit covers 44,625 acres of petroleum and natural gas leases located in Townships 84 to 87 inclusive, Ranges 20 and 21, w5, in Peace River district. In addition all the crown lands in Townships 84 to 87 inclusive, Ranges 20 and 21, w5, have been withdrawn from leasing as a reserve for the industry.

The interests behind Canadian Petroleums, Ltd., have been active in the Peace River Field for about seven years and have spent around $300,000 in development work; and the company is planning to erect a plant which will ultimately take care of the entire demand of Canada for carbon black as well as handle a considerable export trade. It is expected to lay the foundation of the plant before winter sets in and have it in operation early in 1925. While the drilling carried on in Peace River district in recent years has failed to develop any oil production, practically all the wells carried to any depth have encountered large flows of gas, which has been allowed to blow open for lack of a market.

CHARGE GAS WASTED

TOPEKA, Kans., Oct. 11.—Oil operators in the Eastman Field in Cowley County, Kansas, are wasting enough gas to keep Kansas warm at a minimum cost, according to a report made to the public utilities commission.

One well alone loses enough gas daily to supply the needs of Arkansas City, Winfield and Wellington, Homer Klint, engineer, estimates in his report. The report charges "this criminal waste is causing the people of Kansas to pay the 3 cents per thousand royalty to the Indians of the reservation where most of Oklahoma's gas comes from."

E. T. Hackney of the utilities commission notified the board of commissioners of Cowley County that the report charged those responsible for the waste with violating the oil and gas laws of the State of Kansas.

HEARING AT AMARILLO ON GAS CONSERVATION

AMARILLO, Tex., Oct. 11.—The vast extent of the Panhandle gas structure and the difficulties encountered by drillers were graphically portrayed at the gas conservation hearing called by the oil and gas division of the Texas Railroad Commission. The hearing was primarily for the purpose of devising ways to curb waste during drilling operations, and drillers and operators were unanimous in declaring that "dry hole drilling" was the only feasible method in most of the area. They asserted that even in favorable formations there was less waste in penetrating the gas strata as rapidly as possible, than when the well was lubricated, and that the latter was impossible in many formations.

H. E. Bell, chief supervisor of the oil and gas division of the Texas Railroad Commission, presided at the hearing, with R. D. Parker of Austin, gas utilities expert; T. L. Coplin of Wichita Falls and Bruce Frazier of Electra, deputy supervisors, also present.

About 30 operators, several coming from Oklahoma, were interested spectators and took part in bringing out points from witnesses, who were Dick Delaney and George Williams, pioneer cable tool drillers of the field; W. F. Palmer of the American Refining Co., and Hal Hughes, rotary driller; C. M. Pryon of the Gulf Co., Frank Champion of the Prairie Co., J. L. McMahon of The Texas Co., J. O. Whittington and H. T. McGee, pioneer operators of this field.

Mr. Palmer expressed the opinion that drilling through a portion of the gas strata with rotary tools and then finishing with cable tools was the best conservation policy.

The only advocate of lubrication was Dick Delaney, who has drilled several wells for the Gulf Production Co., and he modified his stand by saying it was feasible in the Burnett pasture, but not in Hutchinson County or western Carson. In those districts, it was the opinion of witnesses, alternating layers of shale and lime made drilling with a wet hole impossible.

George Williams, who on two occasions has attempted to drill through a gas flow so strong that it blew the tools out of the hole, told of his experiences with lubrication. The gas in the Humphreys well, western Carson County, he said, hurled pieces of the formation to the surface that had holes in it an eighth of an inch in diameter. This formation absorbed water so fast that two 2-inch lines could not keep fluid in the hole, and he spent 98 days in drilling 9 feet against a 230,000,000 gas flow. In a Potter County well, mud was used in an effort to seal the formation and also proved unsuccessful. Both wells were eventually closed in as gassers, it proving impossible to penetrate deeper. Questions brought out that lubricating the Humphreys well seriously affected the pressure at a well 4.7 miles away, and several expressed the opinion that a general lubricating policy would "kill the field." Capacity of both lubricated wells was diminished.

Another difficulty of drilling with water in the hole was laid to an anhydrite condition of some formations, which absorbed enough water to swell out into the hole, necessitating reaming out every four to six hours.

Operators were unanimous in the opinion that conditions not only made lubricating ruinously expensive and was impractical, but owing to the porous formation causing lowering of the water level and frequent blowouts, would result in greater waste than by drilling through the gas as rapidly as possible and then casing it off. It was testified that this ordinarily could be done in 25 to 30 tours and the recommendation was made to the commission that this be allowed, with the restriction that wells be closed in when not actually drilling. In this connection, it was stated that the gas flow in the proven oil area exceeds 15,000,000 feet.

Judge Bell announced that decision would be made within two or three weeks.

NATURAL GAS RATES DISPUTED IN CANADA

CHATHAM, Ont., Oct. 11.—A number of natural gas rate disputes are this fall being dealt with in Canada.

In the Canadian west the Alberta Public Utilities Commission held a sitting at Calgary to deal with the application of the Canadian Western Natural Gas Co. for increased rates for the city of Lethbridge. Judge Carpenter, chairman of the board, presided, and counsel included L. M. Johnstone, K. C. and W. R. Ball for the city of Lethbridge, J. W. McDonald, K. C., for other towns interested, L. W. Brockington for Calgary and H. P. Savary, K. C., for the gas company. Figures were submitted to show the necessity of a 50-cent rate. Following arrangements for a conference of experts to discuss the watter, the hearing was adjourned, a tentative date of October 28 being set for the resumption.

The Natural Gas Board of Reference for Ontario held a session at St. Thomas on October 3, when the Southern Ontario Gas Co. applied for increased rates for 21 municipalities west and north of St. Thomas. Expert evidence in support of the company's contentions was given by Arthur Tyng, consulting engineer, of New York and H. R. Davis, former general manager of the company. The company's application was based on a report made by Mr. Tyng of an audit of the company's books and an appraisal of its holdings. Mr. Tyng suggested a rate of $2.25 per 1,000 feet as a fair return.

The city of Chatham has concluded a new rate agreement with the Union Natural Gas Co. covering a 2-year period from November 1, 1924. The agreement fixed a 75-cent summer rate and in the seven winter months a sliding scale of 50-55-65 cents with 20 cents a month meter rate. The increased winter rates become effective January 1, 1925.

Representatives of gas consuming municipalities along the Windsor border in Ontario recently waited on Premier Ferguson and Charles McCrea, minister of mines, to ask for a reorganization of the natural gas board of reference. The claim was made that C. E. Steeel, the gas company representative on the board, unduly influenced the decisions of his colleagues. The deputation asked that a man of legal training, preferably a judge, be named as chairman of the board in place of D. O. Ellis, the present chairman.

LINE FOR HELIUM GAS TO NOCONA FIELD

FORT WORTH, Tex., Oct. 11.—Surveyors are running a line from the Fort Worth-Petrolia Government line to the Nacoma gas field in north Texas. This is taken to indicate the early building of a line to tap the Nocona gas field with a present output of many million feet, and connecting with the line carrying gas from Petrolia to the Government helium plant at Fort Worth. Several months ago it was reported that analyses showed the Nocona gas among the richest helium bearing materials in the country, passing Petrolia, the Panhandle and Kansas fields, among the best known of the helium-bearing fields. This line will pass near Nocona. The gas in obtained at a shallow depth and the output is of great volume. The proven field is many square miles in extent.

"HERCULES"

(Reg. U. S. Pat. Off.)

RED-STRAND ROTARY DRILLING LINE

When you put on a Patent Flattened Strand "Hercules" Drilling Cable you are not experimenting with an untried line for this kind of work, for actual results have proven that it has no equal.

Here is a line that has all of the necessary qualities for rotary drilling. It has the strength to handle the enormous load, and the toughness and durability to stand the wear and tear of speed and overwinding.

The remarkable success of this line is due to correct combination of material and construction.

The quality of every Leschen Line is kept up to our standard by the rigid tests we make on every wire—maybe you saw some of these at the Exposition. These tests absolutely insure the quality. They do away with guess work.

If you want to get the best results out of your rotary rig, put on one of these lines.

It is a money saver in the end.

"The Wire Rope with the Service Record"

We also manufacture "Hercules" (Red-Strand) Casing Lines and "California Special" Drilling Cables.

A. Leschen & Sons Rope Company

Established 1857

New York Chicago **ST. LOUIS** Denver San Francisco

OIL WELL SUPPLY COMPANY, GENERAL DISTRIBUTORS

MEN KNOWN IN OILDOM

Roy S. Bonsib

One of the most enthusiastic exponents of safety work in the various branches of the oil industry is Roy S. Bonsib, of the Standard Oil Company (New Jersey). Mr. Bonsib was one of the speakers at the sessions of the Petroleum Section, during the thirteenth annual Safety Congress of the National Safety Council, in Louisville, Ky., recently.

Mr. Bonsib was one of the first engineers to take an interest in safety education and the prevention of accidents in the oil industry. Eminently qualified by reason of study and actual experience covering many years of work in other engineering lines, Mr. Bonsib was attracted to safety work as a necessity in efficiency engineering.

His work with the Standard Oil Company (New Jersey) has been such that other large companies have patterned their efforts after the steps outlined by Mr. Bonsib. Faced at first by prejudice and unwillingness on the part of many employes, Mr. Bonsib, in a few short years has made his company, large as it is, one of the leaders in safety work. Mr. Bonsib's efforts take in not only the marketing branch, but also the refining, pipe line and producing lines. His methods include field trips and observations and the development of many mechanical devices for protection of the men working about machinery. One of the factors particularly stressed by Mr. Bonsib is the educational work among the field men and other company employes, teaching them that safety at all times is the only policy to follow.

Mr. Bonsib has been one of the active members of the National Safety Council, and is a leader in the Petroleum Section. He has contributed several articles to National Safety News, the official publication of the National Safety Council.

PERSONAL PARAGRAPHS

Mr. and Mrs. David Wright of Petrolia, Ont., have gone to Trinidad.

* * *

Joseph McGill of Petrolia, Ont., left last week via Montreal for Hurghada, Egypt.

* * *

Fred P. Manley, manager refining, The Texas Company, left Houston, Tex., last week for a business trip to New York.

* * *

J. W. Delaney, of the Galtex sales force, was one of Houston's visitors to the International Petroleum Exposition and Congress in Tulsa.

* * *

A. L. Merritt, member of the board of directors of the E. T. Williams Oil Company, has resigned from the board, his place being filled by Oliver Shoup, former Governor of Colorado. Mr. Merritt will continue as secretary of the company with headquarters at Casper, Wyo.

* * *

Roy E. Collom of San Francisco was in Los Angeles during the week attending the meetings of the Pacific Section of Petroleum Geologists.

* * *

H. G. Hamilton, formerly with The Texas Company, has recently transferred to the W. S. Barnickel & Company, with headquarters in Tulsa.

* * *

Dr. C. O. Fairbank, head of the Fairbank oil interest of Petrolia, Ontario, Canada, with Mrs. Fairbank, left recently for a visit to California.

* * *

Walter Stalder, prominent San Francisco geologist, specializing in the San Joaquin Valley area, spent two days in Los Angeles recently.

* * *

A. B. Patterson, superintendent of operations for the Texas Production Company, Denver, Colo., was visiting friends in Casper, Wyo., last week.

* * *

Mr. and Mrs. Alf Burns of Oil Springs, Ont., who have been spending the summer in England, Scotland and Canada have gone to the Colombia fields.

* * *

Mrs. Earl Houston of Petrolia, Ont., left recently for Peru, where she will join her husband, who is employed by the International Petroleum Company.

* * *

T. C. Wildman, scout in the Okmulgee district for the Amerada Petroleum Corporation, returned recently from a vacation trip spent in New York City.

* * *

Joseph A. Geiger, general superintendent of the Cumberland Pipe Line Company, with headquarters at Winchester, Ky., was a Pittsburgh visitor last week.

* * *

Claude F. Palmer of the Bradford-Wyoming Oil Company, returned recently to Casper after a short business trip to Pittsburgh and other eastern cities.

* * *

J. A. Taff and John Dodge of the Pacific Oil Company, with headquarters in San Francisco, attended the recent meeting of the Pacific Section of Petroleum Geologists.

* * *

F. B. Catchell, vice president of the Galena-Signal Oil Company of Texas, refining department, was one of the many Houston men who attended the Exposition at Tulsa.

* * *

R. R. Templeton, subsurface geologist of the Union Oil Company, left Los Angeles for the company's holdings in Colorado. Mr. Templeton will be away about a month.

* * *

E. C. Lemmon, drilling contractor in the Wyoming fields, is in Casper for a business visit from the Colorado country where he is drilling several wells for different companies.

* * *

John Darr, superintendent of the telegraph department of the Southern Group of Pipe Lines, Pittsburgh, Pa., is spending his vacation at Rockmere on the Allegheny River, above Oil City.

* * *

Orlan Ormsby, representative of the Perkins Oil Well Cementing Company in southern Wyoming and northern Colorado, with headquarters at Rawlins, Wyo., was in Casper recently on a short visit.

* * *

Roy C. Cronise, oil dispatcher for the Southwest Pennsylvania and Eureka Pipe Line Companies, has returned to Pittsburgh with his family after a two weeks' motoring trip through West Virginia

* * *

L. P. St. Clair, vice president, R. D. Matthews, comptroller, and Paul M. Gregg, general counsel of the Union Oil Company, returned to Los Angeles following an inspection of the company's holdings in Colorado.

* * *

J. F. Mason, traveling auditor for the Ohio Oil Company, Findlay, Ohio, and affiliated companies in the Rocky Mountains, has been in Casper, Wyo., and the mountain areas for several days on business.

* * *

L. L. Rector has been transferred from Texas to Casper, Wyo., in charge of the new warehouse for the Lonhart Supply Company. The company will handle oil field supplies for the Rocky Mountain region.

* * *

Charles D. Wagner, general sales manager of the Axelson Machine Company, of Los Angeles, was a business visitor in Casper the past week on his way East to New York. Mrs. Wagner accompanied him.

* * *

M. F. Lackey, manager of the Arkansas-Louisiana division of the Pierce Petroleum Corporation, Little Rock, and G. K. McNutt, of the Guarantee Liquid Measure Company, Little Rock, attended the Exposition at Tulsa.

* * *

O. E. Garretson has been made secretary-treasurer of the Kasoming Oil and Bair Oil Companies, Casper, Wyo., following the resignation of John L. Havice. H. O. Hagen succeeds Mr. Garretson as assistant secretary-treasurer.

* * *

J. W. Leonard, president, and D. R. Buchanan, secretary and general manager of the Leonard Petroleum Company, Washington, Pa., were in Rangely, Colo., recently, following purchase of a half interest in the Raven Oil & Refining Company.

* * *

Gus F. Mahan, vice president of the National Supply Company, with headquarters at Toledo, is making a general trip over the Mid-Continent and Rocky Mountain Fields, and incidently took in the Petroleum Exposition at Tulsa.

* * *

Friends of James L. Grizzard, independent operator at Bristow, Okla., report his recent marriage to Miss Mary Jane Pitts, at that place. Mr. Grizzard was formerly a member of the scouting department of the Waite Phillips Co.

* * *

H. A. Melat, manager of production for the Gulf Production Company, Fort Worth, Texas, and M. O. Rife, in charge of producing properties in north Louisiana and south Arkansas, Shreveport, La., were among the many production men to attend the Exposition at Tulsa.

* * *

Charles J. Wrightsman and Mrs. Wrightsman returned recently to their home in Tulsa, following an extended motor trip to Canada. They received news of the arrival of a baby girl at the home of their son, C. B. Wrightsman, in Los Angeles, on the day they returned.

* * *

Frank S. Knittle, civil engineer and former city engineer for the city of Casper, Wyo., has entered the engineering field as a civil and irrigation engineer. Mr. Knittle has surveyed much of the oil territory of Wyoming, both as a Government employe and for private firms.

* * *

John J. Kenney, general superintendent of the Eureka Pipe Line Company, Pittsburgh, and E. G. Wright, retired vice president and general superintendent of the Southwest Pennsylvania Pipe Line Company, are spending a week on the golf links at Cambridge Springs, Pa.

* * *

A. S. Heck, of Spencer, W. Va., a prominent financier and president of the Heck Oil Company, a successful oil operating company in Reedy district, Roane County, was a Pittsburgh visitor last week. The Heck Oil Company recently completed a gasser on the S. D. Sheppard farm good for 8,000,000 feet a day.

* * *

Glen Garrett, scout and lease man in charge of the Eastland zone office of the Gulf Production Company, has been promoted to the place of chief scout in charge of the land and lease department at the Gulf Company's North Texas headquarters at Fort Worth. He succeeds Charles R. Brown, who resigned. The Eastland office of the Gulf Company will be in charge of Nathan Saper, formerly in charge of the Breckenridge zone office. Mr. Saper will be succeeded at Breckenridge by P. M. Buchanan.

EVERYTHING IN STEEL PLATE CONSTRUCTION FOR THE OIL INDUSTRY

$100,000
Increased Price for Crude Stored in these two "Eighties"

$100,000 is the clear profit that a producer* realized from oil stored in two Graver 80,000-barrel tanks. And the cost of the tanks cannot be deducted from this profit, as they were sold with the oil at a price that equaled their installation cost.

The present low price of crude as well as tanks makes it a decidedly profitable investment to store, as this producer did, and await the return of higher prices. To rent storage space for such crude means a sharp reduction of your final net profits.

When you consider that one year's rental charges at three cents per barrel will pay for a Graver Standardized Steel Tank, the savings that can be effected by storing in your own tanks are apparent.

When the crude is sold, the tanks will be more than paid for out of the profits realized, and the tanks will be yours to pay you big dividends continuously, or, as in many cases, they are sold with the oil.

Graver Vapor-Tight Tanks are all-steel, and properly vented, reducing evaporation to a minimum, maintaining both the quantity and quality of your crude. They are built in standardized sizes up to 80,000 barrels. Send now for prices and specifications. Steel prices are low, deliveries and erection are immediate.

*Name on request.

GRAVER *Corporation*

1928 Todd Avenue, East Chicago, Indiana

NEW YORK CHICAGO TULSA HOUSTON

They can quickly contro

Like scores of other big oil plants, the Cosden Refinery has found *Foamite* Protection always adequate to check and kill fire at the start.

THE great refinery and storage station maintained by Cosden & Company at Tulsa, Oklahoma—largest inland oil plant—has dealt successfully with a serious fire problem.

Here are more than 150 tanks—many valuable buildings—hundreds of tank cars moving in and out—and miles of pipe lines. Fire outbreaks are inevitable. Protection must be unfailing, at any time and at any danger point.

Proven by performance against real fire, under actual working conditions

Such protection has been obtained with *Foamite* equipment. Cosden engineers have repeatedly proved that the fiercest oil fires can be promptly smothered out with Firefoam. Therefore, as the plant has expanded they have added more and more *Foamite* equipment.

Two standard *Foamite* Systems are now installed here. One guards the field tanks; the other protects the refinery. In addition, *Foamite* 40-gallon Portable Engines are stationed at points where they will suffice to prevent small fires from reaching large proportions, and *Foamite* 2½-gallon Extinguishers are placed in adequate numbers, ready at hand in the receiving houses, pump houses, office buildings, etc.

Its remarkable effect on fire under difficult conditions has made *Foamite* Protection the

FOAMITE

The worst fire outbreaks

standard throughout the oil industry. Firefoam Liquid, employed in *Foamite* equipment, has been established by the test of time as the one thoroughly dependable foaming agent. Properly used, it always produces the tough, durable foam that blankets and smothers fire in the shortest possible time.

Specialists who can prescribe exactly the protection your risks require

Foamite-Childs engineers have long made a profession of fire-fighting. Their experience covers every type of oil fire risk. Their service to the oil industry includes furnishing complete *Foamite* Systems, detail designs for Systems, special *Foamite* materials for Systems, *Foamite* Portable Extinguishers and Engines—in short, everything you need for adequate protection against fire.

Write for particulars on *Foamite* Protection for your property.

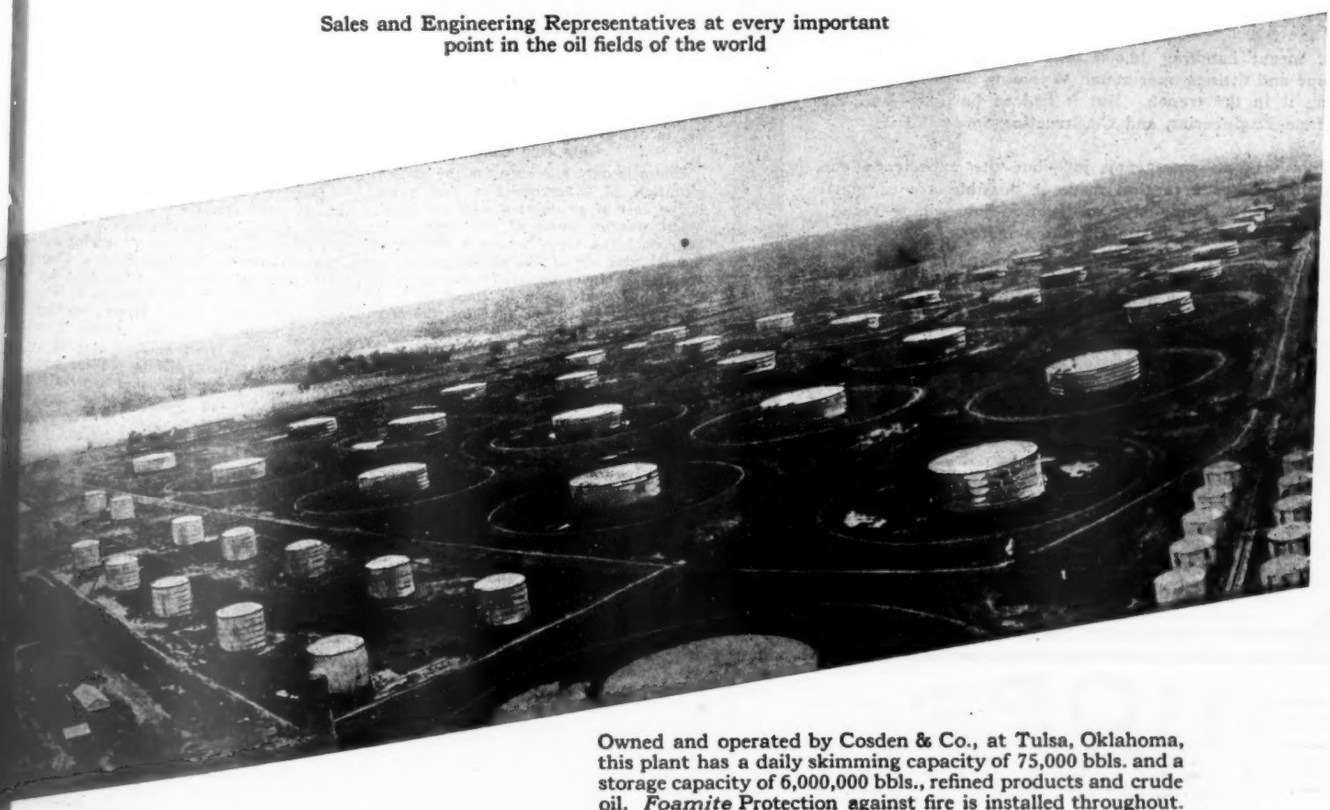
Ask to have a representative call from one of our offices—located at 400 convenient centers of the United States.

FOAMITE-CHILDS CORPORATION

Fire Protection Engineers and Manufacturers

44 Turner Street, Utica, N. Y.

Sales and Engineering Representatives at every important point in the oil fields of the world

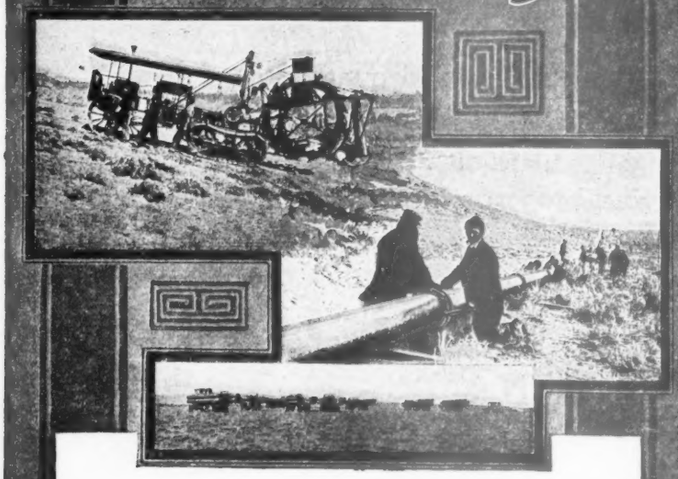


Owned and operated by Cosden & Co., at Tulsa, Oklahoma, this plant has a daily skimming capacity of 75,000 bbls. and a storage capacity of 6,000,000 bbls., refined products and crude oil. *Foamite* Protection against fire is installed throughout.

CHILDS PROTECTION

ENGINEERS & CONTRACTORS
IN NATURAL GAS AND OIL

90 Miles of Pipe Line laid in 66 Days



It meant handling 10,000 tons of 10, 12 and 14-inch pipe and fittings over rough Wyoming country, and laying it in the trench. But it had to be done—and the Hope Engineering and Constructing force did it.

This was an emergency job—but the experience and skill and resource that made it possible are of equal value in the every-day construction jobs where results count, even though time is not a factor.

We are at your service—with an organization and equipment equal to any demand, and with a record and experience which prove our ability to give you what you want, when you want it, at the price you are ready to pay.

HOPE SERVICE

Engineering counsel, design, construction and contracting—in pipe lines for oil and gas, oil pumping stations, gas compressing and boosting plants, gasoline recovery systems, city and inter-city gas mains.

UNIT RESPONSIBILITY

HES-3

H-3-A

ENGINEERS CONTRACTORS HOPE Engineering & Supply COMPANY DESIGNERS MANUFACTURERS
MT. VERNON, OHIO, U. S. A.

MUST CHANGE MENTAL ATTITUDE; FEAR OVERPRODUCTION, NOT FAMINE

By H. L. Horning
Waukesha Motor Company
Before International Petroleum Congress, Tulsa, October 7

While I am closely connected to the Society of Automotive Engineers, the Motor and Accessory Manufacturers Association, through their governing bodies and also am in on the joint fuel tests of the Automotive and Petroleum Industries, what I have to say is purely my own beliefs.

My message is simple. The prices of all petroleum products are dirt cheap compared with their alue to the user and this applies, particularly to gasoline as a fuel and lubricating oils generally. The petroleum industry is suffering from overproduction. Personally speaking, my firm, together with the automotive industry, have labored for years in the belief of an impending oil shortage and the necessity to produce ultra economical engines. We have succeeded in this to the extent that all the gasoline in the ground today has in it 80 per cent more horse power than was there three years ago. Special fuels have been made which promise much for tomorrow. We can say to the world that any gasoline made from Mid-Continent crude by usual processes and coming within the New Navy specifications need not knock under any practical condition in the modern motors, running at high compressions with greatly increased economy. This has come about since the war. When the public wants it, we can give them aviation economy. However, the public does not care for real economy and is not willing to give the slightest attention to it. It consumes fuel wastefully and pays willingly. The public pays as high as 4 cents per gallon gasoline tax and 3 cents for better winter fuel and 3 cents for dope and all of this without a whimper. The public wants power, acceleration and speed and, speaking for one company, we are going to forget economy, except where demanded, and are going to act on the assumption that the general condition of the gasoline market is overproduction.

Only One Cure

There is only one cure for the present situation of overproduction and prices below cost of production with its consequent wanton waste of our natural resources. The cure lies in a change of mental attitude of the entire public interested in fuel; namely, a change from the belief that there is going to be a shortage to the belief that for the next 100 years the great danger is overproduction.

When oil men and the public believe there is going to be overproduction there are going to be some salutory effects on the industry. First—the public will keep on consuming in increased quantities. There will be many new fields opened for the use of gasoline fuel. The public and the industry believing that there is going to be overproduction will hold back on new extensions and exploitations. Wise organizations will increase their storage so as to take advantage of the dips in the market. Low profits will discourage the less efficient and the supply will level itself to the real demand. The truth is we have been suffering for years from real overproduction.

Must Right About Face

The psychology of the industry has got to right about face. There is never going to be a shortage until we have gasless Sundays and a price of 50 cents for gasoline and a $3 lubricating oil. There is never going to be real conservation of our disappearing petroleum resources until the fallacy of an impending shortage under which we have been laboring is eliminated from the minds of all men. When the history of petroleum of the twentieth century is written this period, initial 30 years, will be known as the great period of cheap fuel, overproduction and wanton waste. The war is over.

The lesson is this: The belief that we are in a shortage or facing one immediately ahead when there is none brings about overproduction. The belief that we are in abundance, which is the truth, will readjust production to actual needs and with it the prices of all petroleum products to a level that safeguards the interests of conservation and with it the public and the industries.

FEW MORE GOOD WELLS IN RICHLAND FIELD

CORSICANA, Tex., Oct. 11.—With the exception of a few good wells in the Richland Field the East Central Texas area was very quiet in the past week. The production of the various fields in the area was as follows: Powell, 74,458 bbls. from 742 wells; Richland, 24,220 bbls. from 78 wells; Mexia, 2,120 bbls. from 496 wells; Currie, 1,200 bbls. from 68 wells.

In the Richland Field the Atlantic Oil Production Co.'s No. 6 Swink, Choate survey, started at 400 bbls. a day at 2,829-2,957 feet. Tucker & Fox No. 7 Davis, White survey, had an initial production of 1,100 bbls. from sand at 2,829 feet, total depth 2,969 feet. The same firm's No. 8 Fox was good for 1,200 bbls. the first day from sand topped at 2,909 feet, total depth 2,9[illegible] feet. The firm has a derrick up for No. 9 Swink, and it was the only new operation started in the field in the week in review.

The Boyd Oil Co. will make a test in Limestone County wherein the same interests, then the Humphreys Petroleum Co., opened the Mexia Field. Colonel Humphreys and his associates are rigging up on the Boyd farm on the McNutt survey.

In the Powell Field the only completion was a shallow dry hole, the Tide Oil Co.'s No. 4 Thompson on the Tolan survey, abandoned at 1,600 feet.

ERECT TULSA DERRICK OF SHOLEM ALECHEM

Derrick No. 2 of the Sholem Alechem, an oil men's fraternity organized in Ardmore, Okla., during the past year, was installed in Tulsa, with a meeting and initiation at the Masonic Temple, Tuesday night, October 7. Officers elected were as follows: Crown block, A. F. Hinton; slush pit, J. L. Haver; walking beam, Charles W. Brewer; shyster, B. D. Houston; log book, J. J. Hilderbrand, and geologist, George Matson. Plans were made for the installation of derricks at Fort Worth, Tex., and Wichita, Kans., soon.

Organization of the parent body of the Sholem Alechem was fostered by Bill Krohn, an oil writer living in Ardmore. The term Sholem Alechem is an ancient term of friendly greeting and the purposes of the new order are said to promote friendly relationship between the men in the oil business. The fun spirit is not slighted and an interesting ritual has been worked out for the initiation ceremonies and meetings.

WOULD PUT TULSA ON THE AIR MAIL ROUTE

At the first seasonal meeting of the Techinical Club of Oklahoma the opening gun was fired in an effort to bring the 320th Observation Squardron of the Ninety-fifth Division to Tulsa. A resolution was passed and Colonel Johnson, chief of staff of the Ninety-fifth Division, was advised of the action of the Technical Club.

Locating the 320th Observation Squadron at Tulsa it is said would immediately put Tulsa on the air mail route to be established next year between Chicago and the Mexican border, at which latter point there will be established direct communication with interior cities in our sister republic.

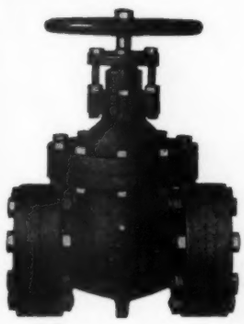
Design Backed by Experience and Based on Scientific Study

THE Westcott company was established for the purpose of carrying out certain ideas in valve design that its organizers had developed thru long and practical experience in field, refinery and pipeline work.

No expense was spared to obtain the most capable engineers, draftsmen, pattern makers and production men to co-operate.

Practical experience was combined with practical engineering to produce the Westcott Valve.

Ask any oil man the result!



The Best-Designed Valve on the Market

WESTCOTT VALVE COMPANY, Inc.
SENECA FALLS, NEW YORK

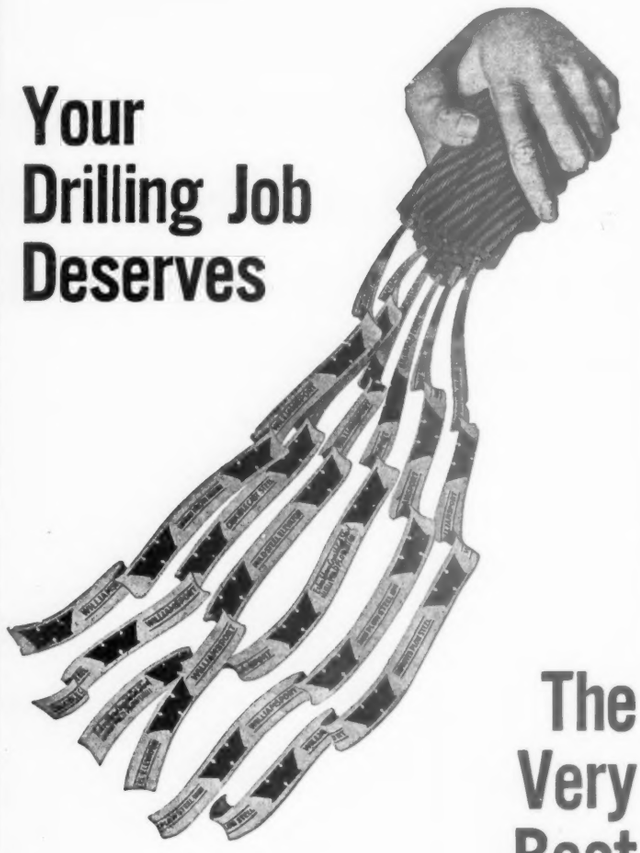
Continental Supply Co.
Exclusive Mid-Continent Distributors

H. P. Westcott & Co.
Los Angeles

Continental Well Supply Co.
Export—2 Rector St., New York

WESTCOTT

Your Drilling Job Deserves



The Very Best

WIRE LINES

—but that isn't all. The most important thing is to use the *right grade.*

If you accept the tag or label on the reel as the only evidence of the grade of steel in the line, you are taking an unnecessary chance.

WILLIAMSPORT

does not ask or expect you to accept uncertain evidence. They build into their lines indestructible PROOF that cannot be altered.

This protection is for you. Why not use it?

Write us for further facts about Williamsport Wire Lines. They will interest you.

WILLIAMSPORT WIRE ROPE COMPANY
Main Office and Works, Williamsport, Pa.
Oil Country Sales Office—Kennedy Bldg., Tulsa

Houston	Ardmore	Bartlesville	Shreveport
Graham	Holdenville	Cromwell	Casper
Mildred	Bristow	Smackover	Lewistown
Shidler	Muskogee	Arkansas City	Ranger
Blackwell	Okmulgee	El Dorado	Electra
		Cromwell	Wichita Falls

WILLIAMSPORT
Service In Every Important Field

NORTH CENTRAL TEXAS

(Continued from Page 48)

feet; Lone Star Gas Co.'s No. 6 Panhandle, drilling in shale at 1,560 feet; No. 4 Withers, set 8¼-inch casing and showing 1,000,000 feet of gas at 1,554 feet; O'Neil and others' No. 1 Rose, drilling at 1,500 feet; Piedmont Oil Co.'s No. 1 Dean, drilling in red rock at 680 feet; Summer and others' No. 1 Parker, drilling at 400 feet.

Montague County: Guarantee Oil Co.'s No. 1 Jordan, drilling in brown lime at 2,920 feet; Wood and others' No. 2 Summerour, drilling at 1,980 feet.

Throckmorton County: Hamilton and others' No. 1 Odell, spudding; King and others' No. 1 Broyles, fishing for tools at 490 feet; Shamrock Oil Co.'s No. 1 McKnight, fishing for tools at 1,270 feet; Whatley and others' No. 1 Parrot, drilling at 785 feet; Young Brothers' No. 1 Steel, fishing for tools at 1,545 feet.

Shackelford County: Haile & Knight Corp.'s No. 1 Reynolds, spudding; Kellogg and others' No. 1 Sedwick, fishing for a 5-inch casing at 2,900 feet; Magnolia Petroleum Co.'s No. 4 George, drilling in blue shale at 1,450 feet; McMahon and others' No. 2 Lynch, running 5-inch casing at 3,820 feet.

Palo Pinto County: Broderick and others' No. 1 Mosley, drilling in hard rock at 2,600 feet; Jack Hughes' No. 1 Belding, spudding; No. 2 Weldon, drilling at 300 feet; Phillips and others' No. 1 Stringer, drilling at 320 feet; Frazier and others' No. 1 Pollard, drilling in hard rock at 2,420 feet; Strawn Oil Co.'s No. 2 Strawn, drilling in shale at 2,830 feet.

Callahan County: Blair and others' No. 5 Cathey, drilling at 1,215 feet; Dudley Oil Co.'s No. 1 Moore, trying to shut off water at 1,853 feet; Dutton and others' No. 6 Cathey, drilling at 700 feet; Kellogg Oil Co.'s No. 1 Snyder, drilling at 1,830 feet; Pruitt and others' No. 1 Bailey, drilling at 1,880 feet; No. 1 Belcher, drilling at 2,300 feet; No. 1 White, drilling at 1,660 feet; No. 1 Windham, drilling in shale at 1,000 feet; Shackelford and others' No. 1 Allen, drilling in hard rock at 1,800 feet.

Mitchell County: Eddleman and others' No. 1 Gist, fishing for bit at 2,850 feet; Humphrey and others' No. 1 Coleman, fishing for 10-inch bit at 1,965 feet; Morrison and others' No. 1 Kynerd, drilling at 1,720 feet.

Brown County: Avery and others' No. 3 Cox, cleaning out after a shot at 2,540 feet; Davis and others' No. 1 Newson, drilling at 680 feet; Gully and others' No. 1 Cox, drilling at 300 feet.

Reagan County: Crockett Drilling Co.'s No. 1 University, drilling in shale at 700 feet; Texon Land & Development Co.'s No. 2 University, cleaning out to bottom above 3,000 feet; this may be a dry hole.

KENTUCKY-TENNESSEE

(Continued from Page 48)

struck on the Sexton Creek in the southwest section of Clay County at a depth of 1,440 feet by the Pulin Oil Co. Clay County is in southeastern Kentucky and has a number of small structures. W. R. Jillson, state geologist, is of the opinion that both oil and gas will be found in this county in important commercial qauntity.

Wayne County

In Wayne County two lower Sunnybrook sand wells were finished, both being in district No. 13. Spradlin & Marsh's initial test on the Harmon lease came in for 20 bbls. at 507 feet. The sand from 497 to 502 feet was given a 20-quart charge of nitro. Head Brown & Co. cleaned out No. 1 Upchurch and were rewarded with a 12-bbl. pumper, after shooting the sand from 494 to 593 feet with 30 quarts.

Powell County

In Powell County, the United Central Oil Corption got an 8-bbl. starter in its No. 23 J. M. Ashley after shooting the sand at from 909 to 924 feet, the total depth, with 60 quarts. This same concern cleaned out No. 5 J. M. Ashley and shot the sand from 776 to 788 feet with 60 quarts, increasing the well's production from 2 to 5 bbls.

Wolfe County

District No. 9, near Torrent in Wolfe County, reports the Atlantic Oil Producing Co.'s No. 1 on the James Roberts farm showing for a flush of 100 bbls. per day from the Onondaga limestone. In the same district the McCombs Producing & Refining Co.'s No. 7 Ann Horter made 15 bbls. at a total depth of 1,408 feet. The sand, encountered at from 1,368 to 1,380 feet, was jolted with 40 quarts of nitro.

South Weir Field

In the South Weir Field, comprised of parts of Johnson and Magoffin Counties, R. G. Gillespie, of Pittsburgh, finished his No. 5 on the Tollie Conley place for a 5-bbl. pumper at approximately 900 feet in the Weir sand. This lease is in district No. 30, where Mr. Gillespie is reported to have in the neighborhood of 100 producing wells averaging about 7 bbls. each.

Lee County

Only one producer was reported from the Lee County Field during the week. It is the Huntington Oil Syndicate's No. 3 Huntington on Contrary Creek, in district No. 18-B, which pumped 8 bbls. from the Irvine sand at approximately 1,200 feet.

A letter received from E. D. Watkins, of Irvine, Ky., states:

"West Virginia parties drilling on a 12,000-acre tract in Owsley County have a 50-bbl. well in the Big Injun formation at 900 feet in depth. The drill penetrated the sand at a depth of four feet. On Thursday of last week they drilled a little deeper and the well flowed over the top of the mast and the oil caught on fire and burned everything around the well, including the rig.

"While the Big Injun formation in this section is an unknown quantity this has the earmarks of a good well, and looks very promising for the Corniferous or Irvine Sand, which is about 600 feet below this formation in this section, and is known to be about 150 feet in thickness."

Western Division

The largest well of the week in the western division was completed by McClintock, Raydure and others in their No. 7 Bud Kerr, in the Kettle Creek district of Cumberland County which on test pumped 38 bbls. the first 24 hours. The well was shot in the second Sunnybrook sand and in the Trenton sand, the oil coming from the former. It was drilled to a total depth of 1,250 feet. Pencil Cave was struck at 567 feet.

At the present time 55 wells are connected to the lines of the Paragon Development Co. in Cumberland and Monroe Counties. In the Bear Creek district there are 17 wells connected, Sulphur Creek 14, Kettle Creek 21 and 3 in the Judio Creek Pool. According to reports, approximately 600 bbls. of oil could be run out of Cumberland and Monroe Counties a day but as the Paragon is not taking all of the crude produced at this time the field is showing less than 400 bbls. daily. Most of the crude is being produced from about 20 wells, the remaining 35 being nothing but small strippers.

It is reported that the New Domain Oil Co., Standard subsidiary, is making preparations to reenter the Cumberland County Field. This concern has taken up considerable acreage in the Sulphur and Kettle Creek districts, recommended to them by its geologist. The New Domain Co. drilled over 100 wells in this county a number of years ago and secured quite a bit of production, but, owing to high taxation, the pipe line was taken up and the wells were abandoned.

Barren County

Development work is still going forward in Barren County and during the week there were 9 completions, all making producers, increasing the daily production to the tune of 70 bbls.

The Emery-Moore Pool, west of Glasgow, furnished 9 of the completions, the best being the Carter Oil Co.'s No. 11 Wininger, which pumped 12 bbls. from a total depth of 562 feet. Shale was found from 302 to 353 feet and the sand from 550 to 558 feet which was shot with

PENNSYLVANIA GRADE

the top quality oil of all the world
For the Trade that Insists on the Best

The rising flood of oil on the market today has not been able to obscure the recognized superiority of Pennsylvania Grade Lubricants.

People who have invested money in fine cars realize the importance, from an investment standpoint, of using the best grade of Oil. Farmers find the difficult job of tractor lubrication greatly simplified by Pennsylvania grade oils. Industrial users, also, judge any lubricant by the Pennsylvania standard.

Guaranteed 100% PURE PENNSYLVANIA OIL

The highest grade oil in the world

PENN AMERICAN

dependable Pennsylvania products

satisfy the cream of the market—the people who want the best and are willing to pay a fair price for it.

These superfine petroleum products have been produced in our own refineries exclusively for the past thirty-seven years. And barring earthquakes, floods or other acts of divine providence, they will be similarly produced in unvarying quality for the next thirty-seven years.

PENN AMERICAN REFINING COMPANY
Refiners of Pennsylvania Petroleum
Home Office: Oil City, Pa.
Refineries: Oil City and Rouseville, Pa.
Established 1886

Tips from an Old-Timer

I buy my pet brand of cigars because they don't vary and are always worth what I pay for them. I've found that my customers buy oil the same way.

The LUCEY CHROME ALLOY FISH TAIL BIT

All things, when done ***right,*** seem very simple and easy.

Their very accuracy seems to blindfold the observer to the things that made that correctness possible.

For example take the LUCEY—Chrome Fish Tail Bit.

Chrome steel is used in the LUCEY Bit. Exhaustive tests and experiments have proven it to be the toughest and most practical material for this purpose.

Analytic control of steel, proper forging and heat treatment have resulted in a uniform, closely-knit body structure and a Fish Tail Bit that, through its own strength and excellent service, will reduce the cost per foot of hole drilled.

You can't ***see*** the scientific supervision that is in the LUCEY Bit—but it's there. It shows up in its performance.

You can depend on all LUCEY products.

LUCEY Manufacturing Corpor

Offices:
New York Pittsburgh Los Angeles

Branches:
Corsicana, Texas—Eldorado, Ark.—Smackover, Ark.—McKittrick, Cal.—Tulsa, Okla.—Tonkawa, Okla.—Shreveport, La.—Coalinga, Cal.—Taft, Cal.—Beaumont, Texas—Healdton, Okla.—Los Angeles, Cal.

Works:
Chattanooga, Tenn. Houston, Texas

Foreign Branches:
Tampico, Mexico—London, England—Soerabia, Dei.—Ploesti, Roumania

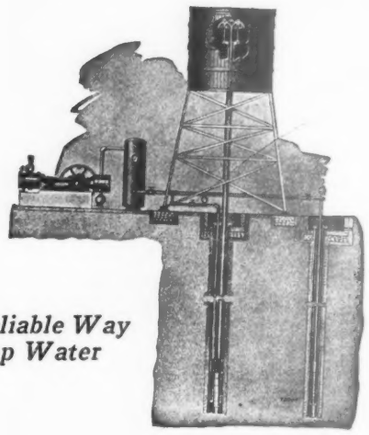
Agents:
International Supply Company—Stroud, Okla., and Wewoka, Okla.
General Supply Company, Casper, Wyo.

How much do YOUR fish tail bits cost per foot of hole drilled ?

portion

Wherever THE NAME IS A LUCEY GUARANTEE there's Oil

Ingersoll-Rand Air Lift System



The Reliable Way to Pump Water

There is nothing obscure in the operating principles of the Air Lift System of Pumping.

Compressed Air, the energy which operates the Air Lift, is introduced at or near the end of the submerged portion of the discharge pipe. The mixture of air and water in the discharge pipe, which is of lower specific gravity than the surrounding water, results in an unbalanced pressure in the discharge pipe and this unbalanced pressure constitutes the driving force which causes the pump to operate continuously.

There are no moving parts in the well. Therefore, nothing to break down or need repair. The only moving parts in the entire system are in the Air Compressor which supplies the energy. Ingersoll-Rand Air Compressors are added insurance for reliability of the system. These compressors are built in many types and sizes, one of which will best meet your local conditions. They may be either belt, direct connected electric motor or steam driven.

Any one of our branches located in all large cities will gladly send you a copy of Bulletin 77, a complete detailed description of the principles and operation of the Air Lift System.

INGERSOLL-RAND COMPANY
11 Broadway, New York

Atlanta	Dallas	Knoxville	San Francisco
Birmingham	Detroit	Los Angeles	Salt Lake City
Boston	Denver	New York	Scranton
Buffalo	Duluth	New Orleans	Seattle
Butte	El Paso	Philadelphia	St. Louis
Chicago	Houghton	Pittsburgh	Washington
Cleveland	Joplin	Pottsville	

For Canada refer Canadian Ingersoll-Rand Co., Limited, 260 St. James St., Montreal

Ingersoll-Rand

5-AL

40 quarts. Six and one-quarter inch casing was set at 168 feet. On the Scott tract, Gillespie & Wiggins, of Bowling Green, Ohio, got a 12-bbl. starter in their No. 6 at a total depth of 527 feet. Shale was from 271 to 331 feet and the sand from 508 to 523 feet. This well was shot with 30 quarts.

Fred Moore's Nos. 4 and 5 on his own farm made 10 and 7 bbls., respectively, at 507 and 540 feet. The shale was found from 246 to 296 feet in No. 4 and the sand from 495 to 507 feet. Four hundred and sixteen feet of 4⅞-inch and 130 feet of 6¼-inch casing was set. No. 5 well found the shale from 284 to 334 feet and the sand from 529 to 538 feet. Both wells were shot with 30 quarts of nitro. This same operator got a 5-bbl. pumper in his initial test on the Gassoway farm at 332 feet, 35 feet below the shale. Ziegler Brothers finished a 10-bbl. pumper in their No. 4 Drennan at 527 feet. This well was originally finished in the shallow sand at 35 feet below the shale and was carried on down to the deeper sand at 185 feet below the shale. The Houchins Leasehold Co.'s No. 53 Button is good for 4 bbls. at 237 feet. Shale was from 115 to 165 feet and the sand from 227 to 237 feet.

The JCS Oil Corp. drilled in an 8-bbl. pumper on the Guy Jackman farm, 1 mile to the north of production in the Emery-Moore Pool. Shale was found from 206 to 262 feet and the sand from 440 to 456 feet. As this test was productive in the deep pay it is thought that further drilling in between the Jackman and Emery-Moore Pool will serve to prove a connection, and also a large amount of acreage held under lease by the JCS Corp.

The JCS Oil Corp. finished its initial test on the H. Jones place, several miles north of Glasgow, in the Coral Hill district, for a 2-bbl. stripper at a total depth of 433 feet, 35 feet below the shale.

Three producers and two dry holes is the record made in the Owensboro Field, comprising Hancock, Ohio and Daviess Counties, according to late reports.

The wildcat test of the Wood Oil Co. on the Harrison farm, 3 miles southwest of the Herbert school house district, was dry and plugged at 816 feet. The New Domain Oil & Gas Co.'s No. 1 J. Powers was dry and abandoned at 800 feet. This test was 1½ miles northeast of the Jackson wells.

In the Herbert school house district, the Panther Creek Oil Co. secured a 10-bbl. pumper from the Barlow sand at 750 feet in the No. 9. The well was 400 feet east of No. 8. No. 10 Miller was drilling at 400 feet. The Kentucky Oil Co.'s No. 2 S. V. Flowers made 6 bbls. from the Barlow sand at 728 feet.

In the Hurricane district, the Leeper Oil Co. finished its No. 4 Lone Helm, one location north of No. 4 Casey, for 10 bbls. from the Jett sand at 450 feet.

Drilling Activities

St. Louis parties were cleaning out No. 2 Jackson; C. A. Leeper's No. 1 J. S. Collier, at Collier Station pumped 8 bbls. from the Jett sand; Cowling and others' No. 1 W. S. Howard was drilling in the Jett sand; the Palmer Oil Syndicate's No. 1 Gunther at Deanfield was dry in the Jett sand, but drilling will be resumed and the hole carried on down to the Barlow pay; Nutty & Pyle's No. 1 Ves Haines is drilling at 540 feet; the Jett sand at 450 feet being barren; C. E. Daugherty's No. 1 Eliza Ward was making hole at 700 feet; the Kentucky Co. is moving a rig to the Skinner tract to offset No. 1 Dr. Garrett on the south; Nutty, Pyle and Harkless' No. 2 Dick Spurrier are drilling for the Barlow sand as the shallow Jett sand was dry; C. A. Leeper's No. 5 Lone Helm was drilling at 497 feet, the Jett sand being dry at 450 feet; C. A. Leeper's No. 10 Amanda Stewart was drilling at 200 feet

Warren County

In Warren County, Cunningham & Henry's No. 4 Henry Bryant in the McLemore-Gillespie-Price Pool was dry and plugged at 1,169 feet, 97 feet below the shale. This makes the first duster completed in this immediate vicinity for the past year and is the only one finished in the pool proper.

In the Bays Fork district in eastern Warren County, Dixon and others [illegible] a 3-bbl. pumper in their No. 8 [illegible] Pearson at 520 feet, approximately [illegible] feet below the black shale. C. E. [illegible] ter's No. 1 Foster, same vicinity, pumped 4 bbls. after being shot with 30 quarts at 525 feet.

Allen County

The best well reported from Allen County the past week was Jim Lee's No. 1 Alderson, which tested 25 bbls. after a shot at 341 feet, about 84 feet below the shale. This completion extends the Keen Pool a number of locations to the west.

Mrs. John McAlpine finished No. [illegible] Cherry, 4 miles south of Scottsville, for 15 bbls. at a total depth of 312 feet. No. 7 was drilling at 307 feet.

In the Gainesville Pool, north of Scottsville, the White Plains Oil & Gas Co.'s No. 7 J. C. French pumped 12 bbls. after a 20-quart shot at 420 feet. The well had the appearance of a duster even after it was shot and it was the intention of the drillers to plug it. After waiting for several days the bailer was run and, quite a bit of oil being in evidence, the well was put pumping with the above results. In the same area unknown parties abandoned No. 9 R. H. Good at 290 feet. Unknown parties are credited with a dry hole at 540 feet on the Sum Moore tract.

In Metcalf County a duster was reported on the Beard farm, operated by T. L. Gorby, of Cave City, Ky.

Tennessee News

W. H. Boswell and others of Livingston, Tenn., have started a test well on the Mitchell Creek anticline about 10 miles north of Livingston in Overton County.

This anticline, according to Mr. Boswell, was surveyed by Charles Butts, of the United States Geological Survey, in 1919, but has never had a test of any kind drilled on it. It is 10 miles southeast of the Kettle Creek Field in Cumberland County, Kentucky. There have been several oil men looking over the situation. The test is down 240 feet and 6¼-inch casing set. This is the only well drilling in Overton County at this time, although several parties have recently leased up acreage in the vicinity of Livingston.

HONOR SECRETARY OF NEW JERSEY STANDARD

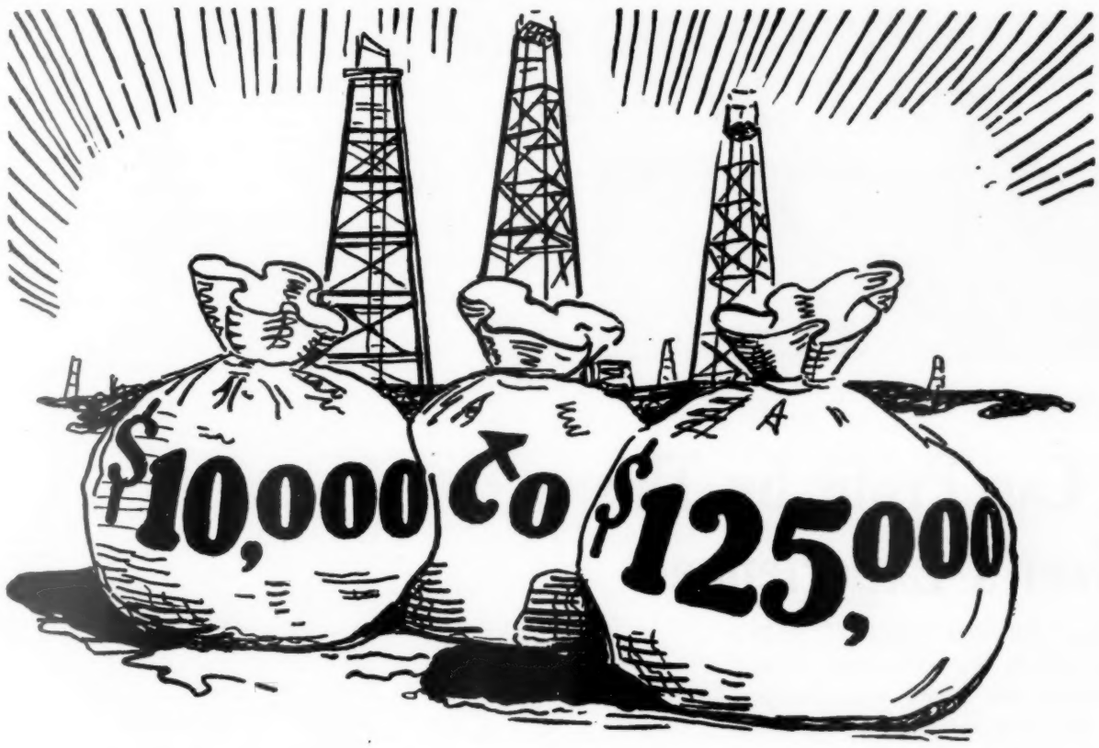
NEW YORK, Oct. 13.—An special event in the affairs of Standard Oil of New Jersey occurred when leading officials and directors and many invited guests attended the launching of the latest type of tanker tender, the "Charles White." This unusual appellation was tendered as an honor to Charles T. White, for more than a quarter of a century known as the genial secretary of Standard Oil of New Jersey.

In a rather formal way, it was officially decided to name the new boat the "Charles T. White," perhaps the first time a Standard Oil vessel was named after anyone not a director or previously a director. On Charlie's insistence, however, the name was changed to the "Charlie White," that being the name by which he is known throughout the industry.

Included in the launching party were Chairman A. C. Bedford, Vice President George H. Jones and James A. Moffett, Jr., and numerous other high officials with their wives. President Walter C. Teagle was prevented from attending by his absence in Canada. A formal luncheon at the Hotel Bossert was held after the launching in Tebo Yacht Basin, Brooklyn, with addresses by prominent officials.

TO LAY GAS LINE

The Truman-Ryal Construction Co. of El Dorado, Kans., has been awarded the contract for laying a gas line of 8-inch, 10-inch and 12-inch pipe for the Empire Natural Gas Co. between Shidler and Myers. Temporary headquarters will be opened at Foraker, Okla. The contract calls for the completion in 45 days.



Can You Afford to Risk It Without Even Insurance?

Equipment Available for All Fields

It costs from $10,000 to $125,000 to drill an oil well.

Any well—*your* well—may be ruined or seriously damaged by water, gas blowouts, collapse of casing and other hazards too well known to require comment.

It may show needlessly excessive costs because of corrosion, pulling and replacement of casing. Production may be only a fraction of what it should be—B. S. and cut oil may be many times *more* than they should be—and the well may be closed down years before its time, all because it was not *properly completed* when drilled.

No well is properly completed that is not protected against hazards that may at any time destroy its efficiency.

And there is no way to obtain adequate protection except thru scientific OIL WELL CEMENTING.

What fire insurance is to the money invested in your buildings, scientific oil well cementing is to the 10 to 125,000 dollars invested in each of your drillings.

Economize on other things, perhaps, but for the sake of good business don't overlook cementing your wells. Neglect in this respect is too dangerous, too costly, as a great many operators with experience will testify.

The Halliburton Oil Well Cementing Co. is the outstanding leader in the cementing field for a number of sound and very excellent reasons: It controls the Perkins process (by far the most successful ever devised) in the Mid-Continent. It is the originator and only user of the *Halliburton Mixer*, which mixes 100 sacks of cement every 6 minutes. It is the only user of the Halliburton Measuring Tape—the only sure means of knowing at all times the exact location of the cement in the hole; and in all its work it has the experience gained in cementing more than 4000 wells to draw upon.

A line dropped to Halliburton today may mean a saving of thousands a few months from now. Your inquiry will receive prompt, courteous and full attention.

HALLIBURTON OIL WELL CEMENTING CO.

Recognized Leaders in Scientific Oil Well Cementing

Duncan, Okla.

To safeguard your investment—Oil Well Cementing

You Can Profit by This User's Experience

"Of four different kinds of orifice meters which we have used in our field work, we found the Foxboro to be the most satisfactory in every respect—both as to accuracy and convenience in handling."

LOUISVILLE GAS AND ELECTRIC CO.

Many other oil and gas producers have likewise standardized on Foxboro Orifice Meters as a direct result of testing all types of meters.

The facts indicate that those who have not yet become familiar with Foxboro Orifice Meter performance may save much time, trouble and expense by getting in touch with the nearest Foxboro engineer at once.

Bulletin "O" 113-1 explains why, in detail. May we send you a copy?

THE FOXBORO CO., Inc.
Neponset Ave., Foxboro, Mass., U. S. A.
213 South Cincinnati Ave., Tulsa, Okla.
New York Chicago Boston Philadelphia Pittsburgh Cleveland Rochester Birmingham Los Angeles San Francisco Portland, Ore.

7309

FOXBORO
REG. U. S. PAT. OFF.
THE COMPASS OF INDUSTRY

STANDARD OF INDIANA FILES ANSWER TO SUIT

(Continued from Page 58)

being wholly free of limitation as to quantity of production, place of sale, or price."

Competing in Missouri

The answer cites as an example that three licensees—the White Eagle Oil & Refining Co., the Lion Oil & Refining Co. and The Texas Co. have entered the State of Missouri and are now competing with the Standard Oil Co., and that none of these "are in any manner limited by the license granted to them as to marketing territory, but, on the other hand, said licenses permitted said companies to compete more freely and openly than they might otherwise have been able to compete."

The answer further declares that the effect of granting to other refiners the use of the Burton process "was not to restrain trade, but on the contrary to increase and promote free and open competition and commerce in petroleum products * * * that the patented process produced an economy in the cost of gasoline in that it increased the supply and made methods of production more efficient and economical; that the effect of the licenses did not tend to nor did it give the Standard Oil Co. any monopoly or power to restrain trade." The answer asserts that during the years of 1913 and 1914, the company did more than 75 per cent of the business in gasoline and other petroleum products in the territory in which it operated in the United States and in the State of Missouri, but that there has been "a constantly increasing and intense competition in the sale of such products in said territory," and that as a result of this competition, the company at the present time is not doing in the territory in which it operates and in the State of Missouri more than 45 per cent of the business.

SELLS NEW YORK PROPERTY

BOLIVAR, N. Y., Oct. 11.—Charles Phillips, Sr., of Bolivar, has sold his oil property on the Adams farm, town of Clarksville, to E. W. Cady and C. F. Allen of this village and Max Andrews of Olean. The property consists of 31 acres in fee, with 12 wells, one power, etc. It is 1,250 foot drilling, the Richburg sand being from 30 to 35 feet in depth. Mr. Phillips developed this oil property, having acquired the farm in 1883. The new owners and Karls & Weller, who have a lease on the adjoining Jordan farm, will drill five line flood wells.

Leon J. McDonell is drilling No. 4 on the E. J. Scott farm, town of Bolivar. Last week he completed No. 3, with 90 feet of sand. The well started off at 10 bbls. C. H. Williams is the contractor.

The Forest Oil Co. has just completed a good well on the Reed farm, town of Bolivar.

The B. & B. Oil Co. completed a good well on the Stohr lease, Salt Rising district.

John Messer shot a well for Neil Wilson on the Childs farm, Daggett Hollow. It shows for an average producer.

PUMPING OUTFITS FOR RUSSIAN OIL TRUST

Announcement is made by the Tulsa Pumping Unit Co., Tulsa, of the sale of three pumping outfits to A. Serebrowsky, of the Russian Oil Trust, Azneft of Baku, to be shipped to the Baku fields. The new pumping unit involves the application of electric power, the motor driving two large cog wheels which in turn raise and lower the rods by means of arms which connect them to the pump frame. An adjustable counterbalance extending to the opposite side of the well makes it possible to clamp the entire outfit to the casing, thus eliminating costly foundations.

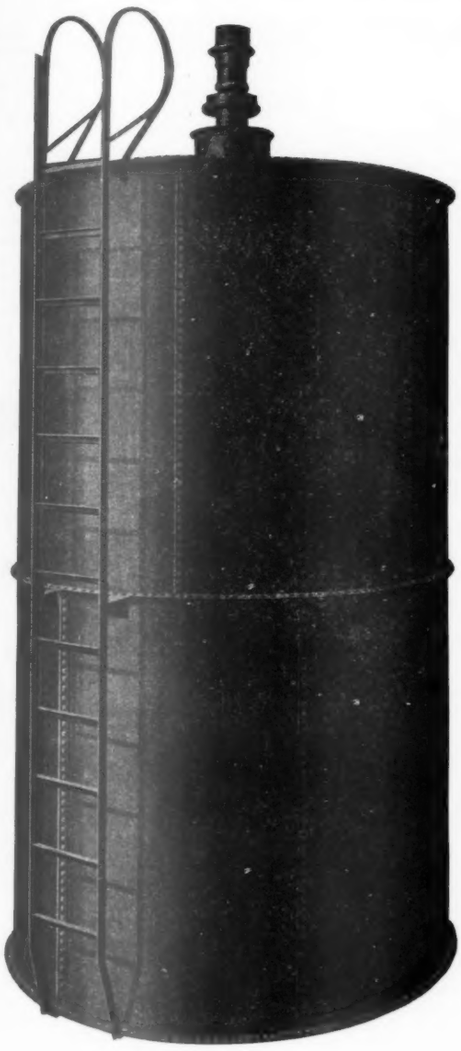
The perfect counterbalance which can be adjusted for the weight of the rods, coupled with the even flow of the power from the motor and the steady work of the power transmitted to the larger cog wheels, gives an even motion which eliminates any chance of crystallization and rod breakage. When pulling rods or tubing the casting which supports the motor and gears is moved back on the structural platform by means of a screw mechanism.

The unit is compact and self contained and requires only four or five horsepower to pump the ordinary well, the manufacturers claim.

YOUNGEST OIL FIELD IN LOUISIANA

(Continued from Page 64)

Goldman-Brandt	N. W. Spencer	1	5-21n- 9w
Gulf Refining Co.	A. J. Hodges	1	11-21n-10w
Gulf Refining Co.	A. J. Hodges	2	11-21n-10w
Gulf Refining Co.	W. Cox	1	15-21n-10w
Hude & Aarnes	W. W. Cox	1	22-21n-10w
Hude & Aarnes	W. W. Cox	2	22-21n-10w
Humble Oil & Refining Co.	John Babb	1	14-21n-10w
Humble Oil & Refining Co.	John Babb	2	14-21n-10w
Humble Oil & Refining Co.	John Babb	3	14-21n-10w
Humble Oil & Refining Co.	John Babb	4	14-21n-10w
Humble Oil & Refining Co.	Bodcau Lumber Co.	1	14-21n-10w
Humble Oil & Refining Co.	A. J. Hodges	1	12-21n-10w
Humble Oil & Refining Co.	A. J. Hodges	2	11-21n-10w
Humble Oil & Refining Co.	A. J. Hodges	3	11-21n-10w
Humble Oil & Refining Co.	A. J. Hodges	A-1	10-21n-10w
Humble Oil & Refining Co.	S. S. Merritt	1	14-21n-10w
Humble Oil & Refining Co.	S. S. Merritt	2	14-21n-10w
Humble Oil & Refining Co.	R. D. Webb	1	14-21n-10w
Humble Oil & Refining Co.	S. J. Merritt	1	14-21n-10w
Humble Oil & Refining Co.	Bodcau Lumber Co.	B-1	24-21n-10w
Humble Oil & Refining Co.	M. F. Davis	1	24-21n-10w
Invincible Oil Co.	S. J. Merritt	1	14-21n-10w
Invincible Oil Co.	S. J. Merritt	2	14-21n-10w
Invincible Oil Co.	S. J. Merritt	3	14-21n-10w
Invincible Oil Co.	S. J. Merritt	4	14-21n-10w
Invincible Oil Co.	S. H. Lindsay	1	23-21n-10w
Invincible Oil Co.	A. J. Hodges	1	11-21n-10w
Invincible Oil Co.	A. J. Hodges	2	11-21n-10w
Invincible Oil Co.	T. Crichton	1	21-21n-10w
Invincible Oil Co.	T. Crichton	2	21-21n-10w
McDowell & McCleery	J. W. Hortman	1	15-20n-10w
Minden Oil Co.	G. H. Hope	1	30-21n- 9w
Ohio Oil Co.	Bank of Cotton Valley	1	22-21n-10w
Ohio Oil Co.	Bank of Cotton Valley	2	22-21n-10w
Ohio Oil Co.	Bank of Cotton Valley	3	22-21n-10w
Ohio Oil Co.	Bodcau Lumber Co.	1	15-21n-10w
Ohio Oil Co.	Bodcau Lumber Co.	2	15-21n-10w
Ohio Oil Co.	Bodcau Lumber Co.	3	15-21n-10w
Ohio Oil Co.	Bodcau Lumber Co.	4	15-21n-10w
Ohio Oil Co.	Bodcau Lumber Co.	5	15-21n-10w
Ohio Oil Co.	Bodcau Lumber Co.	6	15-21n-10w
Ohio Oil Co.	Bodcau Lumber Co.	7	15-21n-10w
Ohio Oil Co.	S. J. Merritt	1	14-21n-10w
Ohio Oil Co.	S. J. Merritt	2	14-21n-10w
Ohio Oil Co.	R. L. Holloway	1	23-21n-10w
Ohio Oil Co.	R. L. Holloway	2	23-21n-10w
Ohio Oil Co.	T. Crichton	1	21-21n-10w
Ohio Oil Co.	B. Sidney	1	16-21n-10w
Oil Fields Gas Co.	G. D. Hope	B-1	13-21n-10w
Oil Fields Gas Co.	G. D. Hope	B-2	24-21n-10w
Oil Fields Gas Co.	G. D. Hope	B-3	24-21n-10w
Oil Fields Gas Co.	G. D. Hope	A-1	13-21n-10w
Palmer Corp.	R. H. Miller	1	29-21n-10w
Pine Valley Oil Co.	Fee	1	7-21n- 9w
Pine Valley Oil Co.	W. T. Gleason	1	31-22n- 9w
C. W. Robinson et al	Duhe et al	1	22-21n-10w
S. S. Raymond	R. M. Coyle	1	21-21n-10w
Standard Oil Co.	McInnis	1	23-21n-10w
United Central Oil Corp.	W. T. Gleason	1	31-22n- 9w
Woodley Petroleum Co.	S. S. Merritt	1	14-21n-10w
Woodley Petroleum Co.	S. S. Merrit	2	14-21n-10w
Woodley Petroleum Co.	S. S. Merritt	3	14-21n-10w
Woodley Petroleum Co.	W. D. Merritt	1	14-21n-10w



Positive Control
with
Butler Bolted Pressure Tanks

BUILT GAS TIGHT

HAVE LESS SEAMS—THEREFORE AFFORD LESS OPPORTUNITY FOR LEAKAGE

STAYED INSIDE AND OUT

INSIDE IS SO STAYED WITH HEAVY BRACES, PROPERLY ANCHORED SO THAT THE BOTTOM AND DECK CANNOT BULGE NOR SWELL FROM THE PRESSURE OF THE VAPORS

EQUIPPED WITH THE BUCK COMBINED PRESSURE VALVE AND VACUUM BREAKER they give absolute assurance of the most efficient evaporation prevention as well as the greatest gas recovery for either gasoline or fuel.

SAVES YOUR MONEY

A Butler bolted pressure tank when used as a flow tank will serve you in many ways. It will hold gas under pressure for lease fuel, or deliver your gas to gathering lines of gas plant. It will afford protection from excessive vacuum and pressure. These are but a few ways it will serve as a flow tank.

As a stock tank it will hold your oil under pressure to avoid evaporation. Your tank is fully protected by the pressure and vacuum valves. All parts easily inspected. Valves will not stick nor freeze.

This new Butler Bolted Pressure Tank will do everything that is claimed for it and a lot more. It is the result of much experience and many experiments. Complete information is available from any of the reliable dealers listed below.

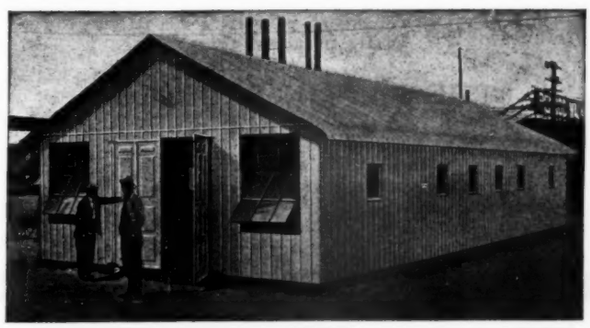
READY MADE Galvanized Steel Buildings at Your Service

Butler *Ready Made* Buildings are ideal, wherever a fireproof structure can be used in connection with the oil industry. These buildings come in the desired sizes and can be easily and quickly erected. The Butler plan of construction has been perfected to the extent that Butler *Ready Made* Buildings can be torn down and reerected with practically 100 per cent salvage.

The prices of Butler *Ready Made* Buildings are now very low.

A catalogue and other descriptive matter will be sent upon request. Give us an idea of what you need.

There is a reliable dealer in every field who can give authentic information regarding Butler Products. It pays to keep in touch with your closest office, or write us direct.



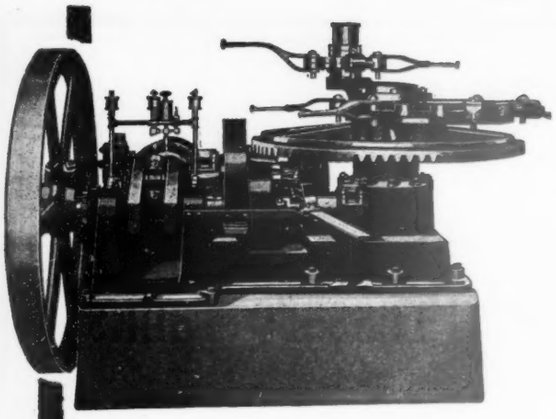
May Tank & Sup. Co.
Casper, Wyoming
and branches

Butler Manufacturing Co.
A. G. Bartlett Bldg.,
Los Angeles, Calif. Tel. 65457

BUTLER MFG. CO.

KANSAS CITY, MO.
MINNEAPOLIS, MINN.

M. & V. Tank Co.
Wichita Falls, Texas
and branches
Standard Tank & Steel
Works, Ranger, Texas
and branches
Drane-Humphrey Co., Inc.
2015 College Ave.,
Fort Worth, Texas
and branches



Learn for Yourself About This Power

If you need compact, strong dependable power, you owe it to yourself to investigate this latest Pattin combination.

Pattin 4-cycle Gas Engine geared direct to single eccentric and disc pumping power. Equivalent to double eccentric. Makes possible perfect balancing of wells without swings. For wood or concrete foundation. Perfectly concentrated power, eliminating belts, and doing away with the large power house.

Made in 8 H.P., 12 H.P., 15 H.P., and 20 H.P. sizes.

Write us about this.

THE PATTIN BROS. CO.

Marietta, Ohio

Branch Offices and Warehouses:
Tulsa, Okla.; Wichita Falls, Texas
Carried in stock by Frick & Lindsay Co. in Kentucky

PATTIN POWER

SOME PHASES OF OIL INDUSTRY'S RELATIONS WITH GENERAL PUBLIC

By Fayette B. Dow

Before International Petroleum Congress, Tulsa

Those who are responsible for this International Petroleum Exposition and Congress are to be congratulated upon creating a focus for so many interests related to the oil industry. If it does nothing else it gives us an opportunity to get acquainted with ourselves. Perhaps when we understand ourselves we shall be understood by others.

Each one of us is a seller and buyer of something. It is a characteristic trait of human nature that we always consider our own prices moderate but the man who sells to us—he is a very different creature.

Let us talk across the table about one or two phases of our public relations.

The oil industry has been flooding the country during the past two years with gasoline at very cheap prices. One of the normal tests of relative prices is the comparison with the pre-war level. Taking an average of five principal cities, New York, Baltimore, Chicago, Kansas City and San Francisco—the index figure for gasoline in August, 1924, was 98½. That means that the tank wagon, or wholesale, price of gasoline at that time was 1½ per cent less than the average price of 1913.

The average of the Government's index figures for all commodities, including more than 400 price series, shows an average wholesale price level 49 per cent above 1913.

Ruinous Prices

The truth of the matter is that gasoline is selling at ruinously low prices. In fact, the whole oil price structure is and has been for some time so low as to imperil the business existence of a great many organizations in the oil industry. That situation, instead of being a cause for rejoicing on the part of oil users, is one which should give them grave concern. The public wants service first of all. It wants its oil when and where it is needed. It knows it must pay a living price and I believe that when the public understands the facts it is willing to pay a living price and never begrudge it.

Why, then, should an industry, that is filling such a great public need at such low prices be deviled by so many politicians and so many investigations?

There are a number of little reasons, perhaps, but there is one big one. The great majority of the public still thinks that the oil industry is a monopoly. And in fact there are those within the industry who are still thinking of the old days and see in every great change the malign control of unseen hands. We are also hearing something in this political campaign about the "oil monopoly." Speaking for myself alone I believe that when the economic history of the past 10 or 15 years is written one of the most striking facts, will be the decline in the relative proportion of domestic markets supplied by the units formerly combined in the Standard Oil Co. The growth of the industry outside of those units has been phenomenal and explains as much as any other one thing the condition in which we find ourselves today.

Competition With Vengeance

For the time being our facilities have been greatly over extended. Too much crude oil production, too much refinery capacity, too many service stations, too many pumps. The pressure to sell our overproduction through these facilities to get cash has made it impossible for any company or any group of companies to maintain its prices. This is competition. It is real competition. It is competition with a vengeance. It is competition in which the devil is taking the hindmost. No controlled markets could have been as chaotic as those we have had in the past two years and have today. It is time for those interests which came into the industry during the last 10 or 15 years to realize how vastly important is the part which they play in the business and thus to realize that it is economic, not monopolistic forces, which have been shaking the industry to its very foundations.

We want the public's confidence. Public confidence in an industry is a by-product of good service, rendered at reasonable prices, under fair competitive conditions.

The industry's service has carried oil to every county, town and hamlet.

The industry's prices, measured by any fair standard—the standard of profit or the standard of comparison with other commodities, are not only reasonable but are so low that many efficiently managed companies have been for some time and are now operating at a loss.

The industry's competition is as intense as any competition that ever existed in any industry. As proof we have the growth in the last 10 or 15

Fayette B. Dow

years of companies entirely apart from any Standard Oil connection past or present whose investments in the aggregate are today more than six times as great as those of the Standard Oil group at the time the Government started its dissolution suit; we have the tremendous growth of distributing facilities by many interests, a development which is still going on at such a mad pace that some companies are not only competing with others but are competing with themselves; we have a price structure that for two years in succession has crumbled and broken into chaos in the very months of greatest consumption and demand.

No wonder a man in public service said to me the other day, "If there is a combination in the oil industry it is a damn poor one."

My own judgment is that the oil business of the country has grown to such vast proportions that no existing interest nor group of interests does or can control it.

If a trust or monopoly does not exist it is just as wrong to shout "trust" or "monopoly" to get business as to get votes. We cannot abuse our competitors to the public and expect the public to think well of them, or of us either, for that matter.

The average American oil man is a straightforward, direct, outspoken man. That is the kind of a man the American people like. He is beginning to study his own industry and to tell its story. It is the story of an amazing growth, as yet perhaps too little understood within the industry itself. It is the story of an intense competitive struggle, in which the public is being rendered a high type of service at a low level of prices. The best protection of any sound industry is an informed public. The first step is to understand ourselves.

CAMEL HAIR BELTING

AXELSON
Working Barrels
and Sucker Rods

REID Engines
and Powers

RATIGAN
Beam Hangers,
Sure Grips, etc.

WHITLOCK
All-Manila
Cordage

NATIONAL
Transit Steam
and Power Pumps

DREADNAUGHT
Rotary
Equipment

DONOVAN
Boilers

ROEBLING
Wire Lines

F-R SERVICE
Rubber Belting

JONES & LAUGHLIN
Tubular Goods

Fine, clean-cut SERVICE

OLD DOC SALVADOR declares it to be "notoriously true that when the average man starts to play golf he becomes an enthusiast. His greatest ambition seems to be to make up for lost time. His wife may divorce him and business may go to pot but golf goes on forever."

And do you know it's a fact that men who use our merchandise develop life-long enthusiasm for Frick-Reid Service, not unlike that which men develop over golf.

If you didn't already know, likely enough you saw what sort of merchandise we handle from our exhibits at the Exposition the first of this month. But no exhibit and no Exposition could ever tell you very much about the fine, clean-cut, straightforward, white-man's service and cooperation you get from the boys at the Frick-Reid Store in any field. And back of the Stores stands the complete organization.

Among Oil Men and supply men and trade paper men and even laymen, you'll find everywhere a friendly, kindly feeling for Frick-Reid.

If you like to do business in an atmosphere of that kind, get acquainted today at the Frick-Reid Store in your field.

Complete Cable Tool Equipment—F-R Electric Light Plants—Warren Steam Engines—Johns-Manville Packings—Carbic Oxy-Acetylene Welding and Cutting Apparatus—etc.

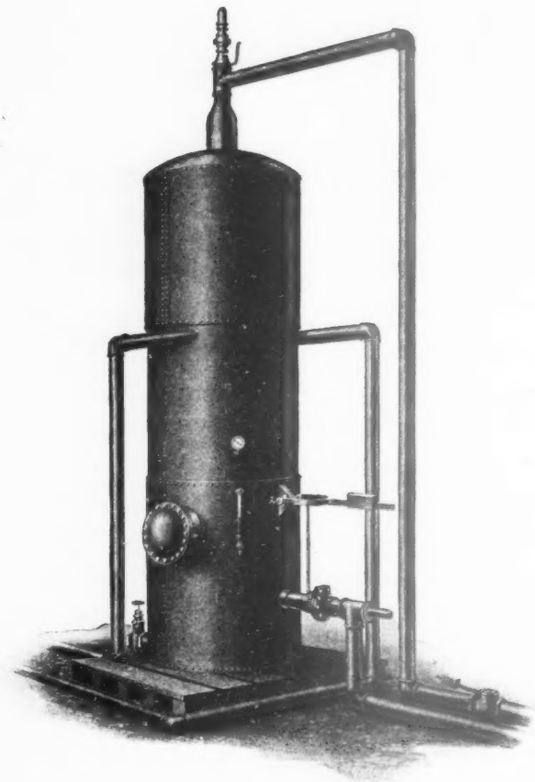
The Frick-Reid Supply Co.

Tulsa, Okla. Pittsburgh, Pa.

West of the Mississippi—Stores Everywhere

In Oil Country Equipment the most HUMAN Organization in America

Trumble Gas Traps are Found Wherever Oil and Gas Is Found



For many years Trumble Oil and Gas Separators have been used all over the world and a saving of both oil and gas has been effected by their use. A saving of oil is effected by holding the lighter constituents in the oil while the separation is taking place, under pressure. The gas when separated from the oil is confined to pipe lines where it may be carried to any place where it may be desired.

Oil and gas conservation is an important item in the operating fields today and may be the difference between profit and loss in operating a small field.

Trumble Gas Trap Company

804 Higgins Building
LOS ANGELES, CAL.

William C. Rae
SALES MANAGER

Eastern Representative:
C. F. CAMP
14 East Seventh Street (P. O. Box 289)
TULSA, OKLAHOMA

AVERAGE PRICES FOR GASOLINE LOWEST FOR YEAR IN 50 CITIES

Due to the tank wagon reductions in the East and Southeast and part of the Southwest the first of the month, the average tank wagon price for The Oil and Gas Journal's fifty representative cities on October 1 reached a new low for the year. The average price for the 50 cities on October 1 was 14.1 cents or 1.65 cents lower than the average price on October 1, 1923.

If it were not for the fact that the Standard Oil Co. of California has not announced any reductions in its gasoline prices the average price would be lower for in most of the cities east of and including the Rocky Mountains the prices have been reduced from 5 to 7 cents a gallon during the past few months. West Coast gasoline prices included in the Standard of California territory were not advanced as much as in the East and Middle West early in the year, but there has also been no general reduction from the peak prices reached in April despite the price slump in all other sections.

The peak point in tank wagon prices for the year on April 1 was 18.05 cents or 3.95 cents higher than the average tank wagon price on October 1. This was just before the local price wars made their appearance after the refinery market started to slump beginning in March.

The general tank wagon reductions of 1 to 3 cents announced on October 1 applied to Atlantic Refining Co., Standard Oil Co. of New Jersey, Standard Oil Co. of New York, Standard Oil Co. of Kentucky and Standard Oil Co. of Louisiana territories. There were a few other scattered reductions. Following are the tank wagon prices in the 50 cities which vary from 11 cents at Omaha to 20.5 cents at Boise, Idaho:

Comparative Tank Wagon Prices Exclusive of Taxes in Fifty Representative Cities in United States

	1924				1923		
	Oct. 1	July 1	April 1	Jan. 1	Jan. 1	June 30	Oct. 1
Birmingham, Ala.	15.0	18.0	20.0	14.0	16.0	18.0	16.0
Phoenix, Ariz.	20.0	20.0	20.0	16.0	21.5	19.5	14.5
Little Rock, Ark.	13.0	18.0	18.0	12.0	16.0	17.5	14.5
San Francisco, Cal.	15.0	15.0	15.0	11.0	19.0	16.0	13.0
Denver, Colo.	14.0	17.0	19.0	14.0	17.0	18.0	15.0
Hartford, Conn.	13.0	20.0	20.0	15.5	22.0	21.5	18.5
Dover, Del.	14.0	20.0	20.0	14.0	21.0	20.0	18.5
Jacksonville, Fla.	12.0	17.0	19.0	13.0	16.0	18.0	16.0
Atlanta, Ga.	14.0	17.0	19.0	11.0	18.0	20.0	17.0
Boise, Idaho	20.5	22.5	22.5	18.0	22.0	22.5	18.0
Peoria, Ill.	13.2	18.2	18.2	14.2	18.8	20.8	14.2
Chicago, Ill.	13.0	15.25	15.25	14.0	18.0	20.0	13.4
Indianapolis, Ind.	13.2	18.2	18.2	14.2	18.8	19.8	14.2
Des Moines, Iowa	13.5	16.0	18.5	14.5	19.1	21.1	14.5
Wichita, Kans.	12.8	17.8	17.8	13.8	18.4	20.4	13.8
Louisville, Ky.	13.0	19.0	19.0	13.0	18.0	21.0	15.0
New Orleans, La.	11.5	16.5	16.5	11.5	16.0	15.5	11.5
Augusta, Maine	13.0	19.0	19.0	14.5	22.0	21.5	18.0
Baltimore, Md.	13.0	19.0	19.0	15.0	20.5	20.5	18.0
Springfield, Mass.	13.0	20.0	20.0	14.5	22.2	21.5	18.5
Detroit, Mich.	13.8	18.8	18.8	14.8	19.4	21.4	13.4
Duluth, Minn.	14.5	19.2	19.2	15.2	19.8	21.8	14.1
Natchez, Miss.	11.5	16.5	18.5	12.5	16.0	18.0	14.5
Kansas City, Mo.	12.9	11.9	17.9	13.9	17.5	19.5	13.9
Great Falls, Mont.	18.0	21.0	23.0	19.0	20.5	22.0	19.0
Omaha, Neb.	11.0	15.0	18.25	14.25	18.25	20.5	14.25
Reno, Nev.	18.5	18.5	18.5	14.5	22.5	19.5	15.5
Newark, N. J.	13.5	19.5	19.5	15.5	21.5	21.5	18.5
Albuquerque, N. M.	18.0	21.0	23.0	18.0	22.0	22.5	17.0
New York, N. Y.	14.0	20.0	20.0	15.5	22.0	21.5	18.5
Charlotte, N. C.	12.0	19.0	19.0	15.0	18.0	21.0	18.0
Fargo, N. D.	14.9	17.8	19.6	15.6	22.8	24.3	16.6
Cleveland, Ohio	15.0	19.0	20.0	16.0	19.0	21.0	17.0
Tulsa, Okla.	12.0	13.5	18.0	12.0	16.0	15.0	11.0
Portland, Ore.	16.0	16.0	16.0	12.0	20.0	17.0	13.0
Philadelphia, Pa.	13.0	20.0	20.0	14.0	21.0	21.0	18.0
Providence, R. I.	13.0	20.0	20.0	15.5	22.0	21.5	18.5
Charleston, S. C.	12.5	19.0	19.0	15.0	16.0	19.0	16.0
Huron, S. D.	15.0	20.0	20.0	16.0	20.6	22.6	16.3
Memphis, Tenn.	12.0	14.0	14.0	12.0	15.6	17.0	14.0
Dallas, Texas	11.0	13.0	17.0	11.0	16.0	14.0	11.0
Salt Lake City, Utah	18.0	21.5	21.5	16.5	20.5	21.5	19.5
Burlington, Vt.	14.0	19.0	19.0	14.5	22.0	21.5	18.5
Norfolk, Va.	14.5	19.0	19.0	15.0	19.5	20.0	17.0
Washington, D. C.	14.0	19.0	19.0	15.0	....	....	....
Charleston, W. Va.	14.0	19.0	19.0	15.0	20.5	21.0	18.0
Milwaukee, Wis.	13.1	16.1	18.1	14.0	18.6	20.6	14.0
Casper, Wyo.	14.1	17.0	19.0	14.0	14.5	17.0	13.0
Seattle, Wash.	16.0	16.0	16.0	12.0	20.0	17.0	13.0
Minneapolis, Minn.	14.2	12.0	18.9	14.9	19.5	21.5	14.9
Average price	14.1	17.64	18.05	14.32	19.21	19.89	15.77

EDUCATION AND THE INDUSTRY DISCUSSED BY AXTELL J. BYLES

By Axtell J. Byles

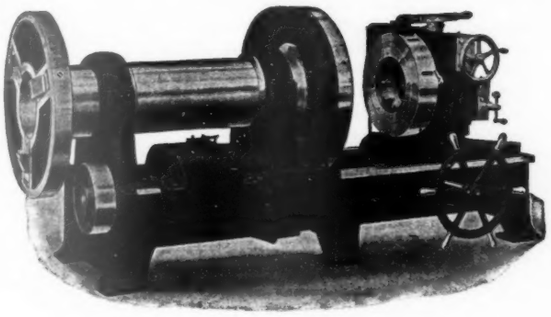
(President of the Tide Water Oil Co., at the Banquet of the Mid-Continent Oil & Gas Association, Tulsa, October 8.)

The public apparently does not always realize that crude oil is not a crop which may be sown and harvested; that it is fugitive and uncertain; that upon an uninterrupted and adequate supply of petroleum products depends the continued usefulness of billions of dollars invested in industry, highways and transportation, and that upon it depends present day society and civilization. That the industry has met this obligation and served this need in times of war and peace seems to be as little appreciated as the fact that it has carried the burden at a terrible cost to itself during the past few years.

How can the public be made to understand that, as at present constituted, there is no more competitive industry in the world than the oil industry if the cry of monopoly is raised within its own ranks. It is axiomatic that there can be no monopoly unless there be control of supply. We have over 25,000 producers of crude oil in this country and more than half of the crude is lifted by the so-called small independent non-integrated producers. We have 563 crude oil refineries of which 527 are of the so-called independent group and 36 are owned by what was formerly the old Standard group. The daily operated capacity of the former is approximately 900,000 bbls., and of the latter approximately 800,000 bbls. The potential capacity of the so-called independent group to the so-called Standard group is more than two to one. Common carrier railroad, pipe line and water transportation exist and there are literally tens of thousands of marketers. We know that there is no monopoly in petroleum or its products in this country. Let us say so.

The law of supply and demand is inexorable. When there is too much of any commodity the price must fall and when there is too little the price must be increased if that commodity is to be obtained. There is not sufficient available cash or credit in this country to long peg the prices of commodities in an industry which at the present time and at the present markets is carrying well over $1,000,000,000 in stocks, and disaster would soon overtake any group that attempted it. The producer is de-

PEERLESS B&K DUPLEX P.D.Q.C



Cut it Right

Let us show you how to cut two things at once—cut threads on a B&K machine and at the same time cut your cost per thread. This machine will cut-off, thread and ream pipe at one setting, no duplicating of work. We build one suited to your requirements, whether you use small or large pipe.

Tell us the sizes you use.

BIGNALL & KEELER MACHINE WORKS, of the N. O. Nelson Mfg. Co.
Edwardsville, Illinois

PEERLESS B&K DUPLEX P.D.Q.C

Keystone Model 4 Crawler Gasoline Shovel. Manufactured by Keystone Driller Co., Beaver Falls, Pa. Equipped with Model TU, four cylinder, 5½"x7" Climax "Trustworthy" Gasoline Engine.

Men Like the "Spirit" of Such an Engine

Never a loafer—never a quitter—never a weakling—never a trouble-maker—never a shirker.

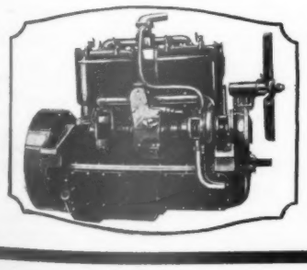
When there's a tough job to do, you know it will be done—quickly—easily—surely. No straining—sputtering—striving for power, but a great deep flow of energy that digs deep, pulls hard, lifts high, moves fast and swings along joyously all day with scarcely a care imposed on the operator. It sets the pace on the job for all the men who work with it and around it.

Write for Catalog.

CLIMAX ENGINEERING CO., 32 W. 18th Ave, Clinton, Ia.

CLIMAX

The "Trustworthy" Engine



Climax Engines are used as Standard Equipment by—

Bay City Dredge Works, Bay City, Mich.
The Byers Machine Co., Ravenna, Ohio
Equitable Asphalt Maintenance Co., Kansas City, Mo.
Fairbanks Steam Shovel Co., Marion, Ohio
Fate-Root-Heath Co., Plymouth, Ohio
Greiman Ditcher Co., Inc., Garner, Iowa
J. T. Tractor Co., Cleveland, Ohio
Keystone Driller Co., Beaver Falls, Pa.
Link-Belt Co., Chicago, Ill.
Locomotive Crane Co. of America, Champaign, Ill.
McMyler-Interstate Co., Cleveland, Ohio
The Mundie Manufacturing Co., Peru, Ill.
Northwest Engineering Co., Green Bay, Wis.
Orton & Steinbrenner Co., Huntington, Ind.
The Parsons Co., Newton, Iowa
Rix Compressed Air & Drill Co., San Francisco, Calif.
The Russell Co., Massillon, Ohio
Vulcan Iron Works, Wilkes-Barre, Pa.
Geo. D. Whitcomb Co., Rochelle, Ill.
W. T. Young Engine Co., Oil City, Pa.

Maybe the Right Kind of Standing Valve Would Reduce this for You

An amazing discovery has recently been made in the oil industry—a discovery so amazing that one Brook Field Superintendent could hardly believe the facts when they were proved to him in his own well.

It has been definitely proved that a considerable percentage of the cut oil and B. S. being produced from pumping wells is the result of the *standing valve.*

Scientific study has shown that *with one exception* standing valves are *too small* in relation to the traveling valve. Acting as suction valves, they force the crude thru narrow passages at high speed, subjecting it to vacuum. Reduced gravity, cut oil and B. S. result.

The ROARK is *outside* the working barrel, therefore bigger than the upper valve. It reduces cut oil and B. S., increases capacity, lengthens maximum pump stroke, and eliminates once and for all the nuisance of loose, leaky leather rings and cups.

One moment's study of the ROARK is all that is needed to demonstrate these things. The advantages are obvious.

At your supply house—or direct

Eliminates Cups and Leather Rings

Increases Gravity and Lasts Longer

Humble orders Roarks regularly

Why Not Try Them?

126

Texas Oil Pump Co
Waco, Texas

pendent upon the refiner for his market and the latter has not always found his position a pleasant or profitable one when ground between high crude and low commodity prices.

For three years uneconomic competitive conditions in the industry have destroyed present prosperity by fear of future shortage of crude. Crude production 'till the end of the chapter will move in cycles of temporary overproduction and temporary underproduction. Some day the shortage will be permanent but when, no one can foretell. In the course of time and in due time substitutes will be found and petroleum will be extracted from shale but meanwhile, is society or are the producers owning the thousands of small wells served by prices for crude which invite the wildcatter to add to the vast storage already accumulated, thus encouraging waste and retarding the day when the owners of wells producing from a fraction of a barrel to two or three barrels per day can receive a price for their product which will let them enjoy a fair measure of prosperity and thus keep available what has been aptly termed "the backlog of the industry?"

Public and private monopoly are equally distasteful to and destructive of the initiative and freedom of individual action which have made this nation. Public monopoly would be the more immediately destructive of such an industry as ours and nothing short of years of devastating control could shake it loose, while the laws, the temper of the people, the romance and hope of reward in the oil business ever have and ever will draw to it a multitude of warm-hearted, hard-hitting individuals, who, singly and in groups, individual and corporate, will see to it that there is competition enough to satisfy even the most ardent of its advocates.

If we could once and for all get the public to see that the trouble with the oil business is not that it is non-competitive but that competition is so severe as to threaten the very stability of the industry, we would by this means educate not only the public but ourselves, so that while competition with resultant fair prices would be insured, uneconomic conditions would cease and a measure of return to investors commensurate with the risk they take in a hazardous industry would continue to make available the capital to meet the vast and necessary expansion of the business.

Typical of the situation to which I refer are the recent endeavors of producers in Oklahoma to agree among themselves to limit drilling in large flush pools in the face of a flood of crude. I understand that such meetings are usually watched or attended by representatives of the Federal Government and not unusually followed by a Federal inquiry throughout the whole industry with the thought, in some minds at least, that Federal grand juries might be helpful in solving the problem. From the standpoint of economics and the public welfare, what childishness this all is. Have we or the country learned nothing in the last 30 years? Sometimes one is inclined to be pessimistic enough to think that neither have.

The vital problems of this, as of every industry, are economic. A proper economic solution eliminates a political solution. A proper economic solution is based on fairness and common sense and has in mind the interests of capital and labor and the public. The solution of most economic problems is simple if we get the facts, but it is not sufficient that we alone have them. We must acquaint the public with the facts. This done we can trust the people to reform those politicians who have been so earnest in their desire to reform the industry.

We, as an industry, are weak in lack of common understanding of each other's problems in the different branches of the business. The American Petroleum Institute, in conjunction with eight national oil trade associations, is attempting to organize an educational movement by means of which pertinent facts relating to all branches of the industry will be disseminated to it and through it to the public. I most earnestly appeal to you to get into this movement; make it your own and as much a part of your work as the operation of your properties. It is hoped that the plan will accomplish two things:

(1) Tend to harmonize the differences within the industry by better understanding of the basic economic facts.

(2) Lead to a more complete and thus better understanding of the industry and its problems by the public.

Because of the misunderstanding by one branch of the industry of the problems of other branches and a consequent failure to appreciate that no one branch may long be prosperous unless all others are, and because of a misunderstanding by the public based on no information or misinformation, Governmental interference with the oil business is threatened. Such interference would only be likely to occur by reason of:

(1) Lack of understanding by the public leading it to believe that the oil industry is a monopoly or is in some manner artificially controlled and therefore subject to inquisition and regulation, or

(2) In case of a tendency toward nationalization of industries dealing in natural resources where it could be shown that such industries are incapable of properly handling their business.

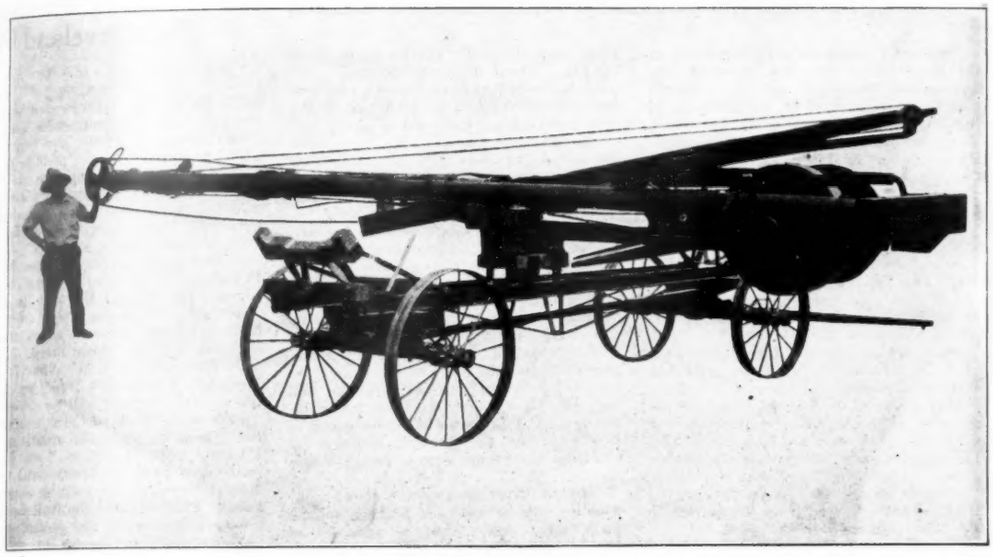
As to the first we need have no fear when the facts are presented, and as to the second the same answer may be made with this qualification, however,—that the time is not now and never will be when an industry dealing in a national resource can, in justice to the public or itself, be other than alert to improvements which result in increased efficiency, economy and service. It is reasonable to expect that much progress can be made in further recovery of oil from producing sands, in the science of refining and in methods of marketing.

Statutory regulation outlawing monopoly is here to stay but Governmental operation or control of business are socialistic, uneconomic and un-American. We are convinced that the Congress or Legislatures, or the committees or commissions appointed through them, cannot operate any business as well as men who give their lives and fortunes to such work, and, certainly, no business would be more difficult or impossible of Governmental operation than the oil business. We know this is so and why it is so. Let us therefore endeavor to conduct it at all times on a plane above suspicion as to integrity, fairness and efficiency, and let us, in like manner, present the facts to the public. These things accomplished, will result in disappointment only to those who have lived long and grown fat upon this issue.

So intent has the oil industry been upon its problems, so engrossed with its burdens of expansion to meet the needs of the hour, so conscious of its own integrity of purpose, that it has stood mute in the face of many unjust attacks. Neither its duty to itself nor to the people it serves permit it longer to remain silent.

Up to 1921 there was always a shortage of some product or other. Since then it has been said there has been a shortage of nothing except profits. The sooner we realize and act upon the fact that a new era has dawned in this business, the better off we will be. No more and nowhere is "something going to be done about it" when we are in difficulty. Let us quit waiting for the miracle. Crises will come in this speculative and hazardous business but many a crisis may be avoided and become a mere incident by a long look down the road and the give and take of intelligent and fair-minded cooperation among the different branches. Let us endeavor in every operation to get down to a basis where the profits of tomorrow may be largely contributed to by the efficiency and savings of today. On such a basis hard times are not likely to destroy us or good times to spoil us.

BALANCE AND SWING



With our iron and steel constructed IRON KING you do no jockeying for position when you have a well to pull. Just drive up to within about eight feet of any well and on any side of casing head. It matters not which side of the wagon the well is on as the machine can be swung from either side with equal freedom. No backing up, turning around, or other time consuming stunts to get in position to pull. The weight is so skillfully and evenly distributed that the operator in the cut to the left is handling the heavy machine with the utmost ease.

If your oil well supply store will not get you an IRON KING write us direct. Tell us where to send you a catalog.

THE IRON KING MANUFACTURING CO., Bradner, Ohio

Say you saw it in The Oil and Gas Journal.

The Reid 24-Foot Diameter, 24-Inch Stroke, All Metal Band Wheel Power

Patented September, 1913—June, 1924. Other Patents Pending.

The Positive Force Feed Oiling System, which assures a constant supply of lubricating oil to all moving parts and the Dust Guards on the wheel hub and eccentrics, to prevent the entrance of grit between the bearing surfaces, are two of the features insuring the owner of a REID 24-Foot Band Wheel Power many years of uninterrupted service.

The larger wheel means better service from the belt.

Let us tell you more about this power. Ask for Bulletin No. 29

JOSEPH REID GAS ENGINE COMPANY, Oil City, Pennsylvania, U. S. A.

Branches and Agencies: Marietta, Ohio; Logan, Ohio; Newark, Ohio; Fort Recovery, Ohio; Shreveport, La.; Charleston, W. Va.; R. B. Moore, Bolivar, N. Y.; Bradford Supply Co., Robinson, Ill.; Frick & Lindsay, Bradford, Penna., and Kentucky Distributors; S. R. Shoup, 708 Pacific Electric Bldg., Los Angeles, Calif., Oklahoma, Kansas, Texas, Arkansas and Wyoming; Frick-Reid Supply Co., Tulsa, Okla., and Branches. Branch Shop: Tulsa, Okla.

14

REFINING AND MARKETING

Refinery Rate Case To Be Resumed at Fort Worth, Oct. 20

Traffic men throughout the Mid-Continent and many from outside areas will be in attendance at the Interstate Commerce Commission hearing to be resumed at Fort Worth, Tex., on October 20. The hearing, which is a continuance of the one held at Excelsior Springs, Mo., early in June, is generally conceded to be the most important held in the Mid Continent area for several years with all refining areas of the Southwest vitally concerned. It was first announced that the hearing would open on October 15. Later it was postponed to October 22 and during the past week the October 20 date was announced.

Since the Excelsior Springs hearing important angles in the Mid Continent rate controversy have definitely developed. At the Excelsior Springs hearing refiners in Groups 1 and 2 presented a part of their evidence. Group 1, which consists of the Kansas City group of refiners, devoted the major part of the time allotted to their testimony to supporting their contention of discrimnatory rates in favor of Oklahoma refiners to certain points in Western Trunk Line territory. Group 2, which consisted of several Kansas refiners, had presented only a small part of their testimony when the hearing was adjourned. These two cases, which were consolidated in the hearing, are known as the Interstate Commerce Commission Docket No. 15,584, filed by the Sinclair Refining Co. and the Kansas City Refining Co. and Interstate Commerce Commission Docket No. 15,585, filed by the Miller Petroleum Co. and six other Kansas refiners.

The hearing was adjourned at Excelsior Springs because it became apparent that additional complaints were to be filed and it was thought best to postpone action until it was definitely known just what position the several refinery groups of the Mid-Continent would take in the rate controversy which directly or indirectly involves them all. The defendant carriers did not present any defense testimony although a regrouping plan for the Mid-Continent was suggested. This plan calls for 11 groups.

Since the Excelsior Springs hearing two additional complaints were filed with the Interstate Commerce Commission. In one of these—Interstate Commerce Commission No. 16,066—the North Texas Petroleum Traffic Bureau is the complainant. Refiners represented in this complaint belong to the North Texas group or what was at one time known as the Burkburnett group. In their petition, excessive rates are alleged from Arkansas, Kansas, Louisiana, Missouri, Oklahoma and Texas to destination territory which includes Missouri, Iowa, Minnesota, North Dakota, South Dakota, Nebraska and the northern peninsula of Michigan. It is also alleged the North Texas refiners are discriminated against in favor of other points of origin in the Mid Continent previously mentioned. Finally this complaint alleges that the Arkansas group of refiners are discriminated against in favor of the Louisiana and South Texas group.

The second complaint which was also filed shortly after the Excelsior Springs hearing is that of a group of refiners located in the northeast part of Oklahoma. The companies concerned are the Barnsdall Refining Co., Cosden & Co., Empire Refineries, Inc., Marland Refining Co., Producers & Refiners Corp., Shaffer Oil & Refining Co., Tidal Refining Co., and Transcontinental Oil Co. This petition, as in the case of the North Texas complaint, alleges that rates from all points

(Continued on Page 98)

NEW FIELDS FOR GASOLINE ENGINE; MORE MILEAGE FOR MOTOR CARS

"We can't count on a continuation of the increases of the past years in the automobile production of the future," was the statement of H. L. Horning, of the Waukesha Motor Works, Waukesha, Wis., before the members of the Mid-Continent Oil & Gas Association, at the annual dinner in Tulsa, October 8. "More than 4,000,000 cars were produced in 1923, and I think the 1924 production will be about 3,500,000 automobiles. The automobile industry should produce between 3,000,000 and 3,500,000 cars in 1925, and for the next three years I do not believe that the average production of automobiles will be more than 3,500,000 annually.

"You oil men depend for a large part of your revenue on what we consume. For seven years the leaders in the automotive industry have been studying the question of fuel. Oil men have helped solve that problem also. Due to changes in construction of the automobile engine alone, we will get 80 per cent more mileage from the oil that is in the ground than we have secured from the petroleum we have consumed in the past.

"We have perfected our designs so that it is now possible to get 40 miles to the gallon of gasoline in a Ford car. Mileage and economy are not wanted by the public, however. The average motorist wants pep and a powerful motor. This factor will aid in the consumption of gasoline.

"The development by the General Motors Corp. of the use of tetraethyl lead in fuel so as to permit high compression without knocking is just the start of a new era in automobile engines and fuels. Automobiles are now developing a compression test of 100 pounds per square inch without knocks, considerably more than has been accomplished before.

"The public wants power, not economy, in its automobile motors. The price of fuel must be made high to conserve the supply, eventually. I am informed that oil men as well as motor manufacturers are aware that the price you can get for a thing has nothing to do with its cost. We have lost money on our motors just as you have lost money on your oil and gasoline.

"You can never be the master of a situation until you know the facts. The lack of facts is particularly apparent in the oil business. No group of men is compelled to go more on faith than oil men.

"The hardest usage that can be given a truck is in use in the oil fields. I feel that the future will bring out a truck particularly adapted to oil field service."

Having pictured many of the gloomy phases of the automobile and truck business for the oil men, Mr. Horning continued to outline some of the newer features of the motor world which he believes will be calling upon the oil business for a supply of gasoline and lubricants before long. "There are many recent developments which should increase the use of gasoline and motor fuel of all kinds," he said. "We have had to develop new markets in our business. As a result we have produced a motor that will give lots of power for its weight. One motor weighs only 1,050 pounds and will develop 100 horsepower. They are being given a wide industrial distribution.

"No mechanical appliance is good unless you can keep it going. The practice of this principle is the basis of Henry Ford's wealth. We have invaded 37 industries in the past few years, installing our motors where other kinds of power had been used. This calls for an increased use of gasoline as these industries continue to develop and demand more motors. One of the most characteristic examples is in the ditching machines. They were formerly operated by steam engines. They now use motors. The same is true of concrete mixers and dozens of kindred types of machines, which have turned from their old power plants to the gasoline engine. We have been able to supply them with an engine that could be junked after a year of usage and still save the users money over their former costs.

"The motor bus offers another big outlet for motor fuel. Since January 1924, motor bus routes in the United States have doubled. Many street railway systems will be junked as the result of the inroads of the busses. They consume much gasoline. The gasoline and distillate propelled railroad cars are being developed for the shorter lines and are competing successfully with steam and they should supplant steam in many instances. Big progress has been made in this line, but the final development is awaiting the proper engine for the service.

"Recent experiments have shown that gasoline can be used for heating houses. Experiments prove that 80 per cent of the heating efficiency could be transmitted. Engineers are now working on the proper application of this principle. Crank case dilution problems also are being solved in the new refinements in automobile engine construction and in many other respects the automotive and the petroleum research men are cooperating to solve problems which will prove mutually beneficial.

"I should say you would profit to follow the developments in the automotive industry involving the following steps: First, standardization; second, do not judge too harshly the non-productive work, but figure if the results obtained from the productive work plus the non-productive work are worth while. Our experience will aid you as you continue to develop, and I anticipate marked progress for your industry."

MICHIGAN JOBBERS PLANNING MEETINGS

CHICAGO, Oct. 11.—The Michigan Independent Oil Jobbers Association are following out their plan to hold direct meetings at points convenient for the membership of the different parts of the State. One meeting was held at Detroit for the members in the eastern part of the State and another for the western members at St. Joseph. A meeting was held at Vassar, Mich., at which there were 47 registrations. The management claims it has been demonstrated that jobbers will attend such meetings even if held in small towns and that these meetings are interesting and valuable. The association plans to begin the publication of an official bulletin on October 15. It will be a four-page paper similar in form and appearance to the Tank Wagon published by the Missouri association.

TO ADOPT DUBBS PROCESS?

LOS ANGELES, Cal., Oct. 13.—It is persistently rumored on apparently excellent authority that the Standard Oil Co. (California) is seriously considering the abandoning of plans for the use of its modifications of the Burton process. This modification is generally referred to as the Burton-Hanna process. It has been confirmed that technical officials of the Standard Oil Co. are making test runs on a Dubbs unit by the Associated Oil Co. and located at the Avon refinery of the latter concern.

If Standard Oil of California should decide to adopt the Dubbs process, it would be considered the driving of another wedge between the former units of the old Standard Oil Trust.

N. P. M. A. Program Tentatively Planned For Cleveland Meet

CHICAGO, Oct. 13.—The program for the annual meeting of the National Petroleum Marketers Association, to be held in the Auditorium, Cleveland, Ohio, November 18-20, has been tentatively announced by the president, L. V. Nicholas. The morning session of the first day will be devoted to viewing the exhibits and renewing acquaintances. President Nicholas will open the afternoon session with a short talk. J. W. Hallman, credit manager of the Sun Co., Philadelphia, Pa., will follow with an address, "Credit, Its Use and Its Abuse." Open forum discussion of this subject will follow and the members will discuss the subjects, "What Constitutes a Legitimate Distributor?" and "What Is a Fair Marginal Contract?" The speaker on the subject, "Price," will be chosen later.

Robert S. Binkerd, vice chairman of the committee on public relations of the Eastern railroads, New York City, an eminent railway authority, will give the main address at the evening session, entitled, "Publicity and the Railroads." The business session on the second day will be devoted to the report of the officers and the report of the audit committee followed by a talk on "This Association," by L. V. Nicholas, president. The report of the credentials committee, the report of the nominating committee and the election of officers are also a part of the work of this session.

Henry L. Doherty, head of one of the larger complete oil companies, will give the main address at the afternoon session of the second day, entitled, "The Oil Industry and the Public." J. L. Murray, president of the Corn Belt Co., Bloomington, Ill., will follow with a talk on "Why I Am Opposed to Motor Dopes." W. A. McMillan, vice president of the Lindsay-McMillan Co., Milwaukee, Wis., will speak on the subject, "Nationally Advertised Oil vs. Your Good Local Brand." The banquet and dinner dance at the Hotel Hollenden in the evening will close the events of the second day.

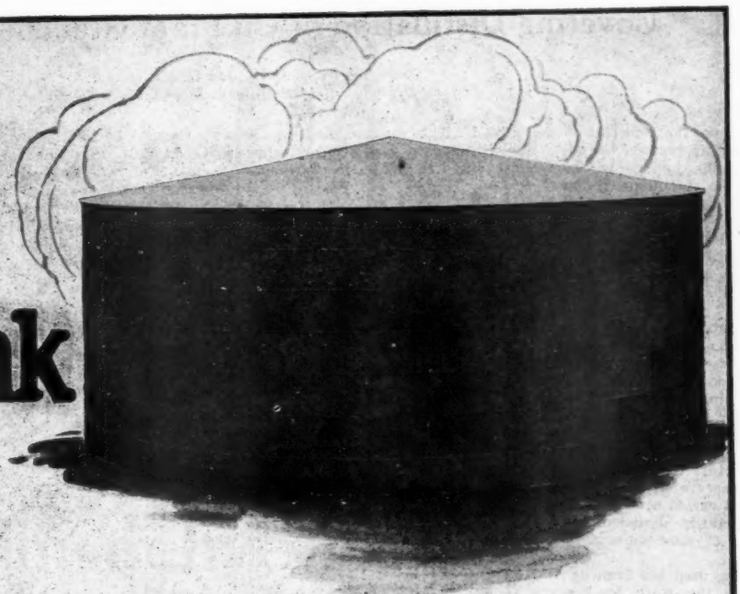
Discussion of the proposition of a national oil exchange or open market will be carried out during the morning session of the third day, under the topic, "Are We Ready for An Oil Exchange?" Three fundamental proposals are to be discussed and voted upon. They include making pipe lines and their storage facilities common carriers in fact as well as in name; formation of an open crude market, similar to the stock exchange or wheat pit, where pipe line credit balances and all other petroleum products can be bought and sold openly; and the formation of a board of governors consisting of oil men to be in charge of the proposed exchange.

The success of the association's advertising campaign, unfinished business and the prize drawing will be included in the work of the afternoon session which will bring the meeting to a close.

COSDEN SALES CORP. PREPARES NEW OFFICES

CHICAGO, Oct. 11.—The Cosden Sales Corp. has not as yet formally succeeded to the Taxman Refining Co. but the delay is only a matter of legal formality. The new offices of the company at 624 South Madison Boulevard are rapidly assuming shape and will be among the most commodious and convenient in the city. The space on the twelfth floor occupies the front of the building overlooking Grant Park and Lake Michigan. The offices of the National Petroleum Marketers Association are directly underneath, as are those of the Acme Petroleum Co. The Northland Oil Co. adjoins them. The Roxana Petroleum Corp. is two floors above.

P.I.W.
STEEL PLATE CONSTRUCTION



One Tank
Or
A Complete Refinery

"P.I.W. Service is World Wide"

The Petroleum Iron Works Company
Sharon, Pa.

BRANCH PLANT, KANSAS CITY, KANSAS

NEW YORK ST. LOUIS HOUSTON TULSA SAN FRANCISCO

Principles of Oil Shale Retorting

Report of Investigation by Colorado School of Mines Covering Distillation of Oil From Grand Valley, Colo., Shale

By Joe E. Meyer
Fellow, Department of Petroleum Engineering, Colorado School of Mines

Fundamental data on the retorting of oil shale, particularly as regards the effect of certain variable factors in the process of retorting on the quantity and quality of products yielded from oil shales when they are subjected to destructive distillation is of particular and vital interest to oil shale operators in this country who are sincere in their attempt to make a real industry out of oil shale developments.

An electrically heated retort for the distillation of oil from shales has been designed and installed, together with the necessary auxiliary equipment for controlling and determining variable factors of distillation, and for recovering and determining the quality and quantity of the products yielded from the shales. The retort is of such a nature that conditions of retorting can be accurately and completely controlled and varied at will. The retort, although primarily designed for research purposes is of semi-commercial proportions.

The apparatus being used has been designed especially for the work by the writer. The retort proper is a wrought iron, externally-heated, perpendicular, cylindrical retort, designed to insure even distribution of the heat through the shale charge during treatment. Its capacity is approximately 100 pounds of shale at a charge. The retort is electrically heated and provision is made for accurate heat control by means of suitable rheostats.

Light Oils Is Objective

Temperature readings are made with Leeds Northrup indicating pyrometers of the potentiometer type. Condensation of vapors is effected by a single stage water cooled condenser. From the condenser, the gases pass through oil and water scrubbers. Measurement of gases is accomplished by means of a Sargent wet test meter.

The retort is well insulated and the whole set in a street framework, from which it may be removed with a minimum of effort. The design of the framework permits the whole apparatus to be moved if it is so desired.

Summarized, the purpose of the writer is to determine with scientific accurracy, the commercial practicability of catalytic conversion of shale oil into low boiling hydrocarbon oils by subjecting oil shale to destructive temperatures, and the vapors resulting therefrom to intimate contact with suitable catalyzers.

The extent of the investigation as conducted to date has been confirmatory of the results and conclusions arrived at by Dr. Ernest E. Lyder in his work on "The Thermal Decomposition of Oil Shales," that is " It has been shown that the pyrobitumens do not decompose to form petroleum oils as a primary product of decomposition, but that the first substance formed is a heavy solid or semi-solid bitumen. This bitumen is formed at a quite definite temperature, the formation taking place between 400 C. and 410 C. The petroleum oils formed from the shale are the result of the cracking of decomposition of the heavy bitumen."

Used Colorado Shale

The material used in this investigation is oil shale from Grand Valley, Colorado. It yields on distillation in the Bureau of Mines apparatus, about 60 gallons of oil to the ton, and is a fairly representative sample of the shales that probably will be first worked in Colorado. The shale to be used throughout this investigation will be as uniform as possible in character and oil yield in order to avoid the introduction of unnecessary variable factors in the tests and to render the results strictly comparable.

Run 1. This run was made as follows: Shale ground to pass a one-quarter mesh sieve placed in the shale container.

	Lbs.
Shale container, weight	9¾
Container and shale, weight	103¾
Shale charge	94¼

Retorting time:
Start ..... 10 a. m. .. Stop ..... 1 a. m.

Data on Retorting

Current on, 10 a. m. Time.	Temp.		Temp.
0.00	20 C.	.30	219 C.
.15	20 C.	.45	230 C.
.30	20 C.	8.00	240 C.
.45	20 C.	.15	251 C.
1.00	20 C.	.30	261 C.
.15	20 C.	.45	270 C.
.30	20 C.	9.00	281 C.
.45	20 C.	.15	290 C.
2.00	24 C.	.30	300 C.
.15	25 C.	.45	310 C.
.30	28 C.	10.00	318 C.
.45	32 C.	.15	327 C.
3.00	38 C.	.30	336 C.
.15	49 C.	.45	345 C.
.30	61 C.	11.00	353 C.
.45	71 C.	.15	363 C.
4.00	81 C.	.30	370 C.
.15	85 C.	.45	377 C.
.30	88 C.	12.00	387 C.
.45	92 C.	*.15	400 C.
5.00	95 C.	.30	412 C.
.15	104 C.	.45	420 C.
.30	116 C.	13.00	428 C.
.45	127 C.	.15	440 C.
6.00	139 C.	.30	453 C.
.15	152 C.	.45	468 C.
.30	165 C.	14.00	485 C.
.45	177 C.	.15	493 C.
7.00	194 C.	.30	493 C.
.15	207 C.	.45	493 C.
		15.00	491 C.

Remarks—Current off from 2:08 p. m. to 2:30 p. m. to repair a leaking gasket on the retort head. This garket never completely stopped leaking for the remainder of the run. This leak probably cut down the yield per ton as much as two gallons, possibly much more.

*Current shut off at this point.

Condensate in receiver, c. c.'s	9,000
Water in receiver, c. c.'s	375
Oil in receiver, c. c.'s	8,625
Be., Gr. of oil—at 60° F.	29.2
Weight of container and shale residue after retorting, lbs.	78½
Shale container, weight, lbs.	9¾
Weight of spent shale, lbs.	68½
Loss on retorting, lbs.	29¾
Volatile matter, per cent	31.5
Water, per cent	4.0
Spent shale per cent	68.5
Oil yield per ton, gallons	47.7
Gas yield, per ton, cubic feet	2,167.69

Power Consumption

Current consumption averaged about 75 amperes per hour at 108 volts. This estimate does not take into consideration periods when the current was shut off or variations interposed by the control rheostats. The figures above are given for comparative purposes only. The current consumption based on the above figures for a period of 12 hours and 15 minutes would be 99,225 watts. At 4 cents per kilowatt this would amount to $3.97.

Following is a Bureau of Mines assay on the same shale: United States Bureau of Mines assay on Grand Valley shale. (Assay made in United States Bureau of Mines apparatus at the Colorado School of Mines.)

Yield in c. c.'s:	
Water c. c.'s	5
Oil, c. c.'s	57
Gallons water per ton	5
Gallons oil per ton	57
Saturation of tops to 527 F.	42%

Distillation analysis of shale oil produced in experimental report.

Sample No. 1

Distillation, Bureau of Mines Hempel method.

Charge: 300 c. c. First drop: 143 F.

Temp. F.	Per cent cut	Sum per cent.
Up to 122	.0	.0
122-167	.5	.5
167-212	1.33	1.83
212-257	2.83	4.67
257-302	5.16	9.83
302-347	6.50	16.33
347-392	5.33	21.67
392-437	6.33	28.33
438-482	6.67	35.00
482-527	5.00	40.00

Remark—

Fraction to 392 F.	52 Be. Gr.
Fraction to 437 F.	47.7 Be. Gr.
Fraction, 437 to 527 F.	33.2 Be. Gr.
Percentage of water in tops	.42 %
Saturation of gasoline to 437 F.	61%
Saturation of tops to 527 F.	56%

Unsaturation of Shale

Quoting Martin J. Gavin, oil shale technologist, Bureau of Mines, in regard to unsaturation and the Bureau of Mines method of comparing the qualities of shale oils by means of index numbers: "Just what part percentage of unsaturation will play in the refining of shale oil is not well known at present. Certainly under commercial practice the refining loss of any distillate will be much less than the absolute unsaturation percentage. However, it is likely that the relative refining losses will be approximately proportional to the respective percentages of unsaturated hydrocarbons in the oils under consideration. For example, a shale oil containing 50 per cent of unsaturated hydrocarbons will, on refining, suffer a greater loss than will an oil containing only 25 per cent of unsaturates, but the loss will not be twice as great.

"There is much to be learned regarding refining losses of shale oils and the relationship between refining loss and unsaturation, but for the present and for purposes of comparison it seems most feasible to rate qualities of shale oils largely on the basis of their percentages of unsaturated hydrocarbons.

"It is difficult to determine accurately by the usual test with sulphuric acid the percentage of unsaturated hydrocarbons in a crude shale oil. The acid tars produced under this treatment are usually very viscous and difficult to separate from the oil. On the other hand it is relatively simple to determine this unsaturation percentage in the tops and to secure on this product closely agreeing results on successive unsaturation tests. Therefore, and again tentatively, the Bureau of Mines compares the qualities of shale oils on the basis of relative percentages of unsaturates in the tops from the oils.

"Another sound basis for classifying oils on this basis is brought out in the analyses. When the percentage of unsaturated hydrocarbons in the tops is low, other desirable properties of the remaining fractions of the oil are generally increased. With some oils the reduction of unsaturates seems to decrease the percentage of solid paraffin wax in the oil, but even in this case the crystalline structure of the wax apparently is altered in a direction that would make its commercial recovery more feasible.

"Knowing the amount of tops yielded by the crude oil and the quality of the tops as indicated by its percentage of unsaturates (also, its percentage of saturated hydrocarbons, since this is obtained by subtracting percentage of unsaturates from 100) an index number tentatively evaluating the shale oil may be readily calculated. If percentages of tops from a shale oil be multiplied by the percentage of saturated hydrocarbons in the tops, the product is a good numerical index of the value of the oil. If the possible oil yield of the shale has been determined by a standard method, then the crude oil yield of the shale, calculated to gallons per ton, multiplied by this index number, gives another number which can be used as an index of the value of the shale, disregarding, of course, certain economic considerations referred to above.

"It should be repeated that this system of classification does not take into consideration the value of the oil other than as a producer of motor fuel, although, as noted, a high yield of motor fuel fraction coupled with low percentage of unsaturates in this fraction is reflected in the quality of the other fractions of the oil. Likewise, it does not taken into consideration the absolute volatility range of the motor fuel fraction, or the percentage of sulphur in the oil. These matters require further study, and perhaps the method will require revision when these factors are properly taken into account. Nevertheless the method has been found extremely useful to the bureau's chemists in their shale investigations, especially when studying a particular shale.

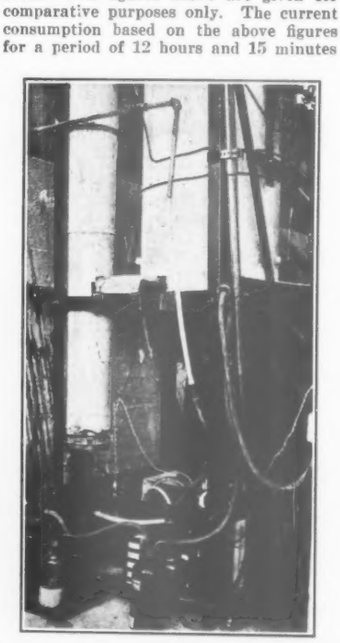
"An application of the method described above may be given. Consider two shales, one yielding 50 and the other 35 gallons of crude oil to the ton. The oil from the first yields 38 per cent of tops containing 55 per cent of unsaturates (45 per cent saturated), and the other 35 per cent of tops containing 40 per cent of unsaturates (60 per cent saturated). First evaluating the oils:

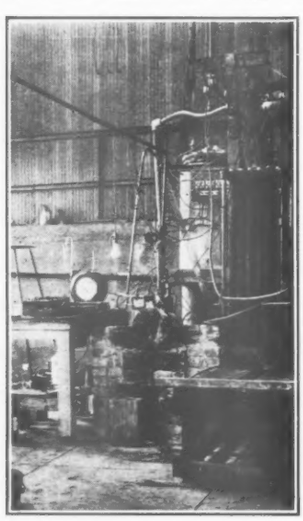
Evaluating the Oils

Relative value of oil from shale No. 1 .....38×45=17.10
Relative value of oil from shale No. 2 .....35×60=21.00

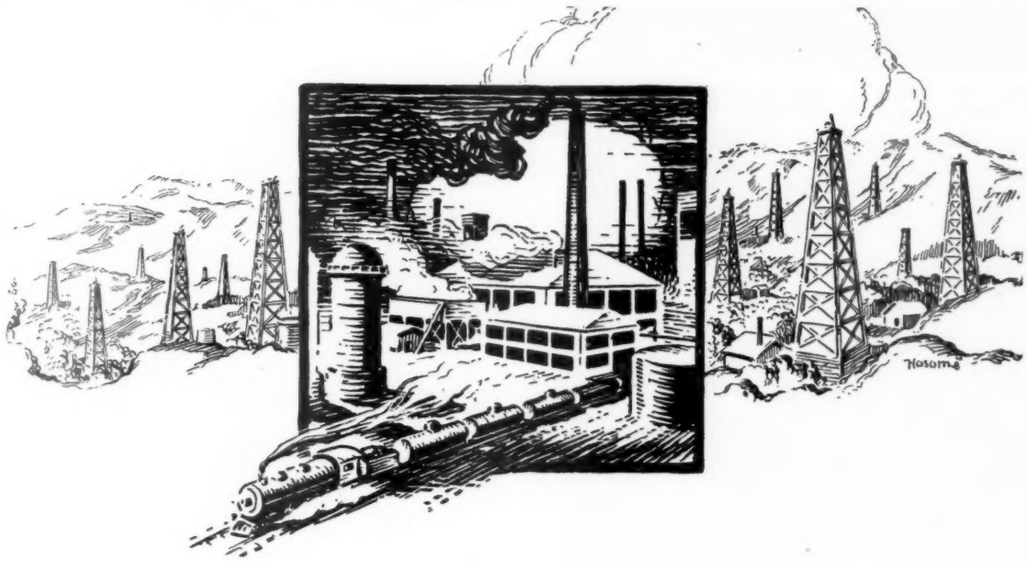
"If the shales themselves are to be evaluated, the numbers obtained as above

(Continued on Page 101)





Two views of experimental equipment used in oil shale research work at Colorado School of Mines, Golden, Colo.



Speed in deliveries, Lower freight rates

—*a part of the bargain!*

TIME is an element of every sale you make. Here are the facilities to give you every advantage of prompt shipment —speed when speed means money.

Our nine refineries "cover" every section of the country, with minimum freight hauls. That means lower freight rates. Our nine branches are located to handle your business with the minimum of delay. Our own telegraph lines link all branches and refineries. Our own pipe lines and tank cars cut down transportation time all along the line.

And more than 5,000 producing wells—in the country's finest crude fields, make it possible for us to watch refining, to follow rigid specifications, as no other organization does in the whole industry.

A money-making combination for you! Write, wire or phone.

GASOLINE—all grades. LUBRICATING OILS—all grades. Tank cars, carloads in barrels. CYLINDER STOCKS—600, 650. Steam refined and filtered. FUEL and GAS OIL—all grades, WATER WHITE KEROSENE—gravities 40 to 47. MINERAL SEAL or 300 OIL —and all other Petroleum Products.

THE PURE OIL COMPANY

General Offices: COLUMBUS, OHIO

Independent—and successful, through unvarying high quality in all products

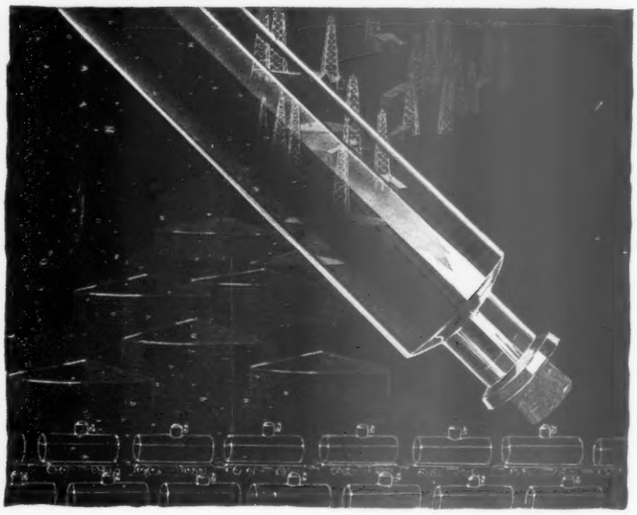
Refineries at

MARCUS HOOK, PA.
WARREN, PA.
HEATH, OHIO
CABIN CREEK JCT., W. VA.
MINNEAPOLIS, MINN.
CUSHING, OKLA.
ARDMORE, OKLA.
MUSKOGEE, OKLA.
SMITH'S BLUFF, TEX.

Branch Offices at

CHICAGO
PHILADELPHIA
DALLAS
NEW YORK
MINNEAPOLIS
PITTSBURGH
WARREN, PA.
TULSA, OKLA.
CHARLESTON, W. VA.
KNOXVILLE, TENN.

SAMPLE OIL BOTTLES



FROM the "gusher" to the "loading rack" effort has succeeded effort, no doubt, to insure the present quality of your product.

How essential is it then that the Sample Oil Bottles which display your stocks to observing buyers, should represent faithfully and to advantage this quality you are so proud of?

Our seamless Oil Bottles of clear flint glass have rendered valuable sales assistance to the oil industry for many years. They are available in 2 oz., 4 oz., and 8 oz. sizes with ground and polished bottoms when specified.

We want you to see for yourself how attractive your oil sample will appear in one of these crystal clear bottles. Write us today for a free sample bottle.

Illinois Glass Company
ALTON, ILLINOIS

Branch Offices In All Principal Cities

GASOLINE BUSINESS GOOD AT CHICAGO

Motorists Taking Advantage of Ideal Weather and October Sales Nearly Equal Those of September. Expect Big Demand for Domestic Burner Oil. Tank Wagon Prices Being Maintained

By John B. Waldo

CHICAGO, Oct. 13.—During the past week, this city and most of the territory that it serves, has been blest with ideal fall weather, the kind that we dream about but so seldom have, although Chicago as a rule has a very fair kind of autumn weather. The motorists have been taking advantage of their opportunities judging from the reports made by the distributors. All of the companies that have headquarters here report a good business during September, some say better than during August and one of the largest independent organizations, the best that it ever had. They also say that from the way that station managers are ordering gasoline, the gallonage thus far in October must be nearly as good as during September.

The marketers complain that business in the open market is rather dull and that jobbers are receiving a good part of their supplies from the refiners with whom they have contracts. These refiners report that they are having a lot of shipping to do, and there is no reason why they should not. The latest report from Cosden & Co.'s local management was that they would not make marginal contracts at least on the same basis as last year, but sell in the open market. Others seem to be willing to go ahead and contract. They say why not? Our contracts have been satisfactory. Right now there is some offering of contract gasoline on the open market supposedly from jobbers who have contracts for more than they have need for.

Market Holding Well

Some of the contracts with margins of over 5 cents permit this in the present condition of the market. Refinery prices are generally ranging from 6½ to 6¾ cents. In fact marketers and jobbers agree that there is plenty of gasoline to be had at that price and that there is no need to pay more but mighty little to be had at less. Occasionally a few cars are picked up at 6⅞ and a still smaller quantity has been reported as sold at 6¼ cents but the latest is that 6⅛ cents is bottom and little to be had at that price. The market is stiffer than the trade thought and is holding very well for the season and conditions.

The jobbers have about given up expecting any further declines in crude and while there is some feeling that the tank wagon may have another decline still this idea is growing less and the industry here is beginning to talk that present prices seem to be stable and may hold until the decrease in production will make itself felt. There are few that believe that higher prices will prevail until the present crude supplies have been reduced. Really at the present rate of consumption these stocks are not so large as to make a very serious menace if they do not increase. They may be burdensome but not disastrously so, if the holders feel that they have reached their limit. The same is true of gasoline and if refiners will not overrun the demand but be patient, the supplies of gasoline will not be found to be so excessive as they were believed to be when they were growing and increasing with every month. With jobbers feeling secure, they will order a little ahead of their immediate needs but it will be some time before they will add materially to the stocks in their tanks.

Demand for Straight Run

The bulk of the demand is still for the straight run New Navy grade. No one here will call it anything else and the trade does not really understand what U. S. Motor gasoline means. There has been no cold weather to greatly increase the demand for the higher gravities but the business in these is improving somewhat and refiners and marketers who specialize on these say that the demand is quite good but prices are a little lower as the result of the week's business. There is little doing here in blends. There has been some inquiry but little satisfaction resulted apparently from the attempt to do business in them. Natural gasoline is still held rather strongly although some refiners report that stocks are available at a little lower price but the wanted grades seem hard to buy for immediate business. Offers of 8⅛ cents for grade A were refused by several sources of supply, when one refining organization was in the market during the middle of the week.

Kerosene is being offered more freely but there is little change in the market. The demand is generally called not better than fair and some marketers find it hard to understand why the offers are so small. The general opinion seems to be that the demand for distillates and the like is giving an outlet for refinery products that would otherwise be sold as kerosene. The larger part of the business is being done at 4⅞ cents for 41-43 gravity which is the large seller right now.

Distillates Not Active

Distillates are not in as active demand owing to the mild weather which has restricted the need of using the heating plants. One distributor that can always find some reason for borrowing trouble said that it would be just the luck of the industry to have a mild winter cut down the consumption of furnace oils after a cold summer had reduced the demand for gasoline but his plaint is not general. The idea is that an average winter is going to make it necessary for the oil industry to be active to supply the demand for fuel for the home. In some instances the coal man has combined with an experienced oil jobber or the employe of an oil jobber to start a subsidiary oil company, thus getting the oil business but keeping the eggs in two baskets.

There is a good deal of complaint among the oil men of the number of grades of fuel called for by the specifications of the various burner manufacturers. There are burners that demand according to their makers a 24-36 fuel oil. Others will use a 30-32 fuel oil. Some require a gas oil and then there are three or four gravities of distillate. This diversity of specifications is felt to be unnecessary and burdensome by many oil men and some are frankly reducing their stocks to a gas oil and a good distillate and this is enough grades they say to handle. They can do this in quantities but if a man is to stock seven or more gravities and grades of burner fuel, it requires too great an investment in stock and in tanks. The experience of this winter will probably show the way to many improvements not only in the installations but in the kinds of burner fuel and the methods of handling it. Some of the distributors who tried it out for a season or two say that it is too much of a back door business for them and have quit.

Big Burner Fuel Sale

There is certain to be a large sale of burner fuel. One large distributor who thought that he had contracted for so much of the consumption of a lively suburban city that he had the trade from that city monopolized, was surprised to find that two competitors had about as much as he did and that there were a lot of small dealers who had some as well. This concern says that the business done in domestic burner fuel this winter will be five times as large around Chicago as it was last year. Most of the larger companies are not seeking contracts now. Some have not sought them this season

(Continued on Page 105)

The Cross Cracking Process

You wouldn't install a Cheese Box Still in your refinery—then why install a Cracking Process that produces other than end point gasoline?

The Cross Process produces end point gasoline direct.

Think what this will do to an already low operating cost.

THE M. W. KELLOGG CO.
90 West St.,
NEW YORK CITY

BRANCH OFFICES:
700 Baltimore Avenue, Kansas City, Mo.
304 Lane Mortgage Building, Los Angeles, Cal.

NUMBER TEN

A new edition of Bulletin Number Ten is just off the press. It deals exclusively with special paints made expressly for the upkeep of plant and equipment for the production, refining and transportation of oil. The products include—

Pipe Line Coatings
Heat Deflecting Tank Paints
Gas Proof Tank Paints
Special Metal Primers
Tank Bottom Coatings
Tank Steamer Coatings
Acid Proof Paints
Tank Car Paints
Building Paints
Engine Enamels, Etc.

Your copy may be had at our booth at the
International Petroleum Exposition and Congress, Tulsa, Oct. 2-11
or the coupon will bring it by return mail

Mail to nearest office for your copy of Bulletin Number Ten

Trade Mark

Hill, Hubbell & Company
Technical Paints

SAN FRANCISCO
115 Davis St.

TULSA
Atlas Life Bldg.

LOS ANGELES
331 W. Eleventh St.

NEW YORK
15 Moore St.

Name_____

Company_____

Address_____

Trade Mark

PAGE
PROTECTION FENCE

Page Double Entrance and Walk Gate installed at the C. C. Julian Petroleum Tank Farm, Norwalk, Cal. A ready opening for vehicles but a strong barrier when locked at top and bottom.

Another view of the Page Fence surrounding the Petroleum Tank Farm shown above. The fabric is No. 9 Ga., 2-in. mesh, with 3 strands of barbed wire to give added protection.

—for positive economical protection

Here's a fence that gives *lifetime* protection—an unclimbable barrier of steel that secures your property against the night prowler and thief—guards against petty pillage, chance fires, ignorant trespassing.

PAGE is specially adapted for service on oil properties, where corrosive influences are often severe. Improved PAGE galvanizing methods result in a super-heavy zinc coat approximately *5 times heavier* than that on ordinary fence wire. This means rust-resistance—long life—low cost protection.

Let the PAGE Fence man near you estimate on PAGE Protection for your property. Write for his address, and for the new Page Fence Book—an illustrated treatise on property protection. No obligation—address

PAGE FENCE & WIRE PRODUCTS ASSN.
215 N. Michigan Ave., Chicago, Ill.

STEEL AND WIRE PAGE QUALITY PRODUCTS

"America's first wire fence"

Distributing wire link products made by the Page Steel & Wire Company, of Bridgeport (District Offices in San Francisco, Pittsburgh, New York and Chicago.) An associate company of the American Chain Company, of Bridgeport.

EASTERN MARKET TONE DOWNWARD; FURTHER PRICE CUTTING FEARED

By N. O. Fanning

NEW YORK, Oct. 11.—No change in the general price structure of the gasoline market was recorded in the eastern markets during the past week. The tone of the markets continues downward. A year ago, when Gulf instituted a slashing reduction in this territory, it proved to be the last tank wagon reduction of the year and a few months later, prices turned upward once more. This year's cut by Gulf Refining Co. was 1 cent larger than that of 1923, and the existing prices are about 2 cents per gallon under last year's low. For this reason it might appear that price reductions have come to an end. There is only one factor which operates against such a conclusion. The tendency of crude oil prices, and the situation as to the supply and demand of crude and gasoline, is such that further unloading of gasoline is probable, which would finally result in further price cutting.

In reducing the tank wagon market in New York to 14 cents, in New Jersey to 13½, and in New England to 13, the leading marketers felt they were readjusting prices to meet all possible competition, but with Mid Continent gasoline at 6½ cents, it could still be marketed here for as low as 11½ to 12½ cents, depending on the section, and no doubt it will be. For this reason a slightly lower tank wagon market would follow.

The feeling in this territory on the part of the oil trade is that if current prices can be maintained for a month or two, there will be no further cuts, inasmuch as the low prices may result in a curtailment of production. If this curtailment does not take place, however, they believe still lower prices are inevitable.

Of course current prices are supposed to be harmful to the oil industry, which must continue to depend largely on gasoline for its profitable existence. But oil men point out that the oil business must obey the law of supply and demand. A shortage of gasoline would bring high prices irrespective of public sentiment or political agitation; conversely, an oversupply, which represents the present situation, brings lower prices, no matter whether they are ruinous or not. So long as cheap crude is plentiful, refiners will operate and produce cheap gasoline; therefore, leading factors in the marketing end of the oil business are watching the course of crude oil production in order to determine the future of gasoline.

Refinery Sales Large

Prior to the recent reduction in gasoline prices in the Atlantic Seaboard States, local refiners reported large tank car sales of gasoline, but since the cut took place, this business has been restricted. Still, one sale of 2,000,000 gallons was reported at 10½ cents per gallon, and inquiries for spot gasoline continue to flow in. Tide Water Oil Co. has long since withdrawn from the "spot" market, but other refiners are doing business along these lines in fairly large volume. Here is another indication of the possibility of still lower tank wagon prices.

Independents Storm New England

It will be noted that New England tank wagon prices are generally below prices in New York and New Jersey, notwithstanding this territory is further from the markets. It would be thought transportation costs would prohibit the sale of gasoline on this basis. The explanation is that several large independent marketers, armed with large supplies of gasoline and their own transportation facilities, have been "gunning" for business on a large scale. Sinclair Consolidated, Gulf Oil and The Texas Co. are prominently mentioned in this campaign, and one so-called Standard Oil Co., Atlantic Refining, is said to have established a large sales organization in New England. The latter has also opened a New York sales office and will soon spread out in local territory.

It is plain from all this that the eastern gasoline situation is characterized by intensive competition, especially since the large independents have come to appreciate consumption here is extremely large in a concentrated area which can be easily reached from distributing stations at Atlantic Coast ports. The abundance of gasoline on hand has pressed some concerns to find new markets.

Furthermore, the various so-called Standard Oil units are gradually spreading out beyond the limits of their former marketing fields, which were usually the State boundaries. Atlantic Refining is believed to have taken a lead in this policy.

Lubricating Oil Firm

A falling off in lubricating oil consumption in the motor vehicle trade has been made up for by increased industrial demand, according to marketers in this territory. Price as a whole, are unchanged but firm. Wax is in good demand also.

Kerosene Soft

Kerosene prices are soft in sympathy with gasoline. A reduction in the domestic market is expected, but will probably not be as drastic as that in gasoline. The situation as to demand has undergone little change, but production has been steadily restricted.

Any change in kerosene downward would probably be tempered by the expected increase in consumption in domestic oil heating installations. Also, kerosene stoves are generally employed in this territory in October prior to turning on of coal furnaces. There is little competition in the kerosene market, however.

Gas Oil Steady

Demand for gas oil is somewhat more active. Local refiners are asking 5¼ cents at refinery for 36-40 gravity. The more sought after 30 gravity brings 5 cents per gallon. This represents a considerable drop, which is attributed to the fact that this is the "between seasons" when few annual contracts are closed.

Fuel Oil Unchanged

Diesel oil, about 30 gravity, is now quoted at $2 per bbl., unchanged from previous levels. There is a steadily increasing demand for this oil due to the growth of the use of Diesel engines in small craft, here and abroad. This grade of fuel oil is more plentiful than the lower gravities.

Bunker oil is also unchanged, with little change in the general situation. It is stated that leading marketers on the Atlantic Seaboard are obtaining $1.35 to $1.60 per bbl. on 1925 contracts, compared with $1.10 to $1.15 per bbl. a year ago. The spot market remains unchanged at $1.75, lighterage extra. However, the new contract basis does not necessarily mean higher spot prices.

Exports Fall Off

The New York export market displayed an easier tendency, but not sufficient to bring about an actual reduction in prices. Lower export quotations on gasoline are believed inevitable, however. Heavy shipments of gasoline and kerosene made recently to Europe may have been the last at the higher prices, as the market in that part of the world is said to be weak.

Interesting oil developments abroad include a reported oil strike in Norway, near the City of Christiana. This calls attention to the fact that the efforts to uncover home oil supplies by European countries has not slackened. Drilling is said to be going on in France, Germany, Spain and Italy.

The only bulk shipment reported during the past week was a cargo of gasoline shipped to France. It amounted to 2,731,144 gallons. Bulk, case and barrel exports of nearly all products fell off compared with the week ended October 1.

Case exports were largely to Australia and Brazil.

London Markets

London, England, furnace and Diesel oil prices were reduced 5 shillings per ton

Pull Rod Strength Under Exacting Working Conditions

In fields where *proved* pull rod strength is required—where twenty-four hours of uninterrupted service is demanded—there you find

SHEFFIELD
SUPER-STEEL
PULL RODS

They perform day in and day out, three hundred and sixty-five days a year.

A better pull rod has never been produced. They are made of special analysis steel, produced in our own Open Hearth Furnaces at Kansas City. Our own experienced engineers supervise the production of Sheffield Super-Steel Pull Rods from raw material to finished product.

Specify Sheffield Super-Steel Pull Rods. Make sure that our trade-mark "K" is on the head of every pull rod you use.

If your supply house does not carry them, write us direct.

The Kansas City Bolt & Nut Company

SHEFFIELD STEEL MILLS

Sheffield Station Kansas City, Mo.

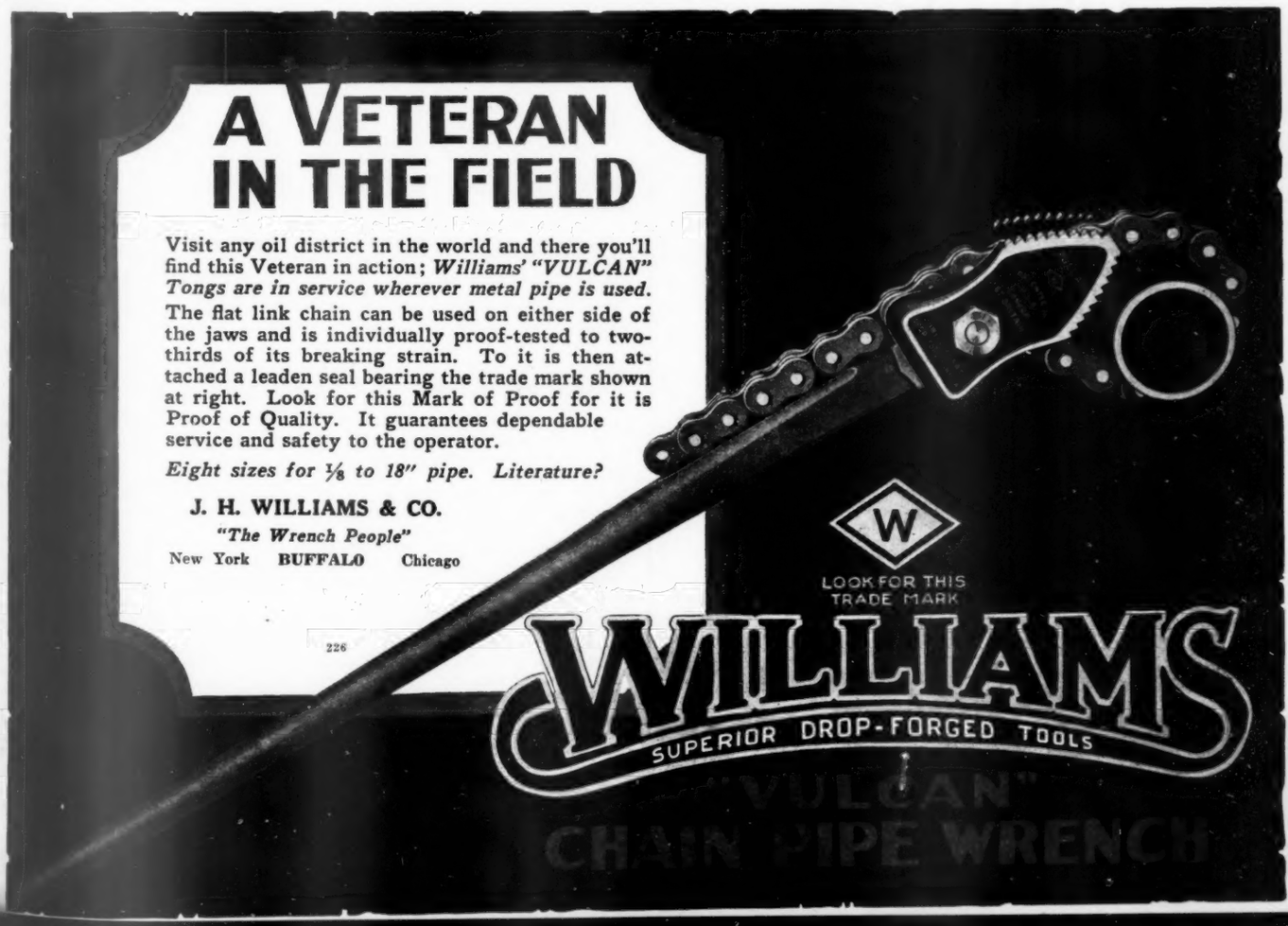
A VETERAN IN THE FIELD

Visit any oil district in the world and there you'll find this Veteran in action; *Williams' "VULCAN" Tongs are in service wherever metal pipe is used.* The flat link chain can be used on either side of the jaws and is individually proof-tested to two-thirds of its breaking strain. To it is then attached a leaden seal bearing the trade mark shown at right. Look for this Mark of Proof for it is Proof of Quality. It guarantees dependable service and safety to the operator.

Eight sizes for ⅛ to 18" pipe. Literature?

J. H. WILLIAMS & CO.
"The Wrench People"
New York BUFFALO Chicago

226



MADE OF KEYSTONE COPPER STEEL

The Maloney Tank
still holds
First Place

In 1913-14 the MALONEY was the *only* bolted steel tank.

Since that time it has been widely imitated but never equalled. Its patented offset seams and joints, quality of workmanship and materials, ease of erection and durability have continued to hold for it the premiership which it first earned as a pioneer.

Allow us to send you our illustrated folder, "WHY the Maloney Is Superior to All Other Bolted Steel Tanks."

MALONEY TANK MFG. CO.
Offices and Plant: Tulsa, Okla.

12 to 3,000 Bbls. Capacity

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

Prompt, Dependable Export Service

MALONEY

September 23, prices now being: Furnace oil, £3 17s 6d per ton, ex wharf; bunker oil, same. Diesel oil is quoted at £5 per ton, ex wharf.

Water white kerosene is quoted at 1s per gallon and standard white 11d per gallon in bulk.

Lubricating oils, wholesale, are as follows:

American pales, £14 10s to £25; American reds, £17 5s to £23 10s. Dark cylinders, £17 5s to £36 10s and filtered cylinders, £23 15s to £42 5s per ton, ex wharf.

Current prices in cases range from 1s 9d to 1s 3d per gallon.

Gas oil prices remain unchanged at 5½d per gallon.

Paraffin wax ranges from 3½ to 5d per pound.

The following table shows principal exports of petroleum and petroleum products from New York during the past three weeks:

	Week ended Oct. 8	Oct. 1	Sept. 24
Gasoline—			
Bulk, gals.	2,731,144	2,371,523	2,286,467
Cases, No.	116,252	183,307	228,173
Kerosene—			
Bulk, gals.	.....	4,416,142	3,732,356
Cases, No.	64,862	216,884	240,150
Fuel oil—			
Bulk, gals.	.....	.....	94,642
Gas oil—			
Bulk, gals.	.....	569,598	1,534,777
Lubricating oil—			
Bulk, gals.	.....	2,105,491	.....
Barrels, No.	3,748	2,352	15,004
Cases, No.	11,588	4,836	11,810
Lubricating grease—			
Barrels, No.	.....	2,147	908
Cases, No.	.....	6,537	1,362
Paraffin wax—			
Pounds, No.	.....	439,340	1,017,940
Barrels, No.	.....	.....	735
Turpentine substitute—			
Bulk, gals	.....	210,049	.....
Cases, No.	3,800	.....	1,550
Petroleum asphalt—			
Barrels, No.	.....	.....	1,070
Crude oil—			
Barrels, No.	.....	2,278	5,888

Among other interesting developments abroad is the growth in the use of Diesel driven river boats in Germany. One well known Berlin engineering expert says that the Diesel motor in canal and river navigation is only at the beginning of its career. If this is so there should be a big export field for the American product in the future.

Charter Market Active

The oil tank steamship chartering market continues active. New fixtures include the following.

The Texas Co., steamer Roanoke, 5,165 tons net, October-November loading, 8,000 tons case and Diesel oils, United States Gulf to Brazil at $7.50 per ton.

Danish tanker Leise Maersk, 1,748 tons net, November loading, about 100,000 cases of kerosene, Mexico to River Plate.

Steamer Pentwyn (Br.), 2,639 tons net, case oil, New York to three ports on the River Plate, at 25 cents per barrel, prompt loading.

Steamer India (Dutch), 4,580 tons net, October loading, fuel oil, Gulf port to Toulon, at 23 shillings.

Steamer Benmohr (Br.), 2,999 tons net, October, Gulf to West Australia, at 38 cents per barrel.

Steamer City of Freeport, 2,628 tons net, October loading, lubricating oil, Gulf port to Hamburg at 27.6d.

Steamer Wellfield (Br.), 3,298 tons net, October, clean oil, Gulf to United Kingdom, 27s. 6d.

Oil Receipts Increase

Receipts of crude and refined oil at Atlantic ports for the week ended October 8, are estimated at 557,000 bbls. daily, a gain of 112,000 bbls. over the week ended October 1. This increase is attributable to increased receipts from the Pacific Coast and larger imports from Mexico. Receipts from the Gulf Coast fell off.

The drop in receipts from Texas and Louisiana ports is due largely to the smaller demand for light oil and gasoline on the Aalantic Seaboard, while the gain in receipts from Pacific and Mexican ports is due to the increased need for heavier oils and fuel oils.

Furthermore, shipments from Mexico were held up temporarily due to labor troubles. During the week ended October 1 imports averaged 55,000 bbls. daily, the smallest in more than a year. The gain to 144,000 bbls. during the week ended October 8 reflects a resumption in shipments under the protection of Mexican Government authorities.

Latest reports from Tampico regarding strike conditions are that striking employes of Royal Dutch have turned back the tank farm and terminal properties to the company. Investigation of trouble at Gulf Oil Corp. and Standard of New Jersey plants is under way.

The following table shows estimated daily average receipts of crude and refined oil by water at Atlantic Coast ports from the Gulf and Pacific Coasts of the United States, and imports, for the last three weeks; also monthly record for the last 13 months (in bbls.):

	Week ended Oct. 8	Oct. 1	Sept. 24
Gulf Coast	233,000	251,000	237,000
Pacific Coast	180,000	139,000	138,000
*Imports	144,000	55,000	99,000
Total	557,000	445,000	474,000

Daily Averages by Months

1924—	Gulf	Pacific	Imports	Total
September	270,000	104,000	101,000	475,000
August	310,000	127,000	84,000	521,000
July	318,000	85,000	114,000	517,000
June	302,000	133,000	136,000	571,000
May	276,000	122,000	144,000	542,000
April	262,000	143,000	123,000	528,000
March	201,000	137,000	130,000	468,000
February	174,000	175,000	108,000	457,000
January	127,000	159,000	79,000	365,000
1923—				
December	184,000	153,000	119,000	456,000
Noember	186,000	141,000	110,000	437,000
October	200,000	164,000	133,000	497,000
September	155,000	146,000	107,000	408,000

*Imports from Mexico, excepting the following: Week ended October 8, 72,000 bbls., or 10,000 bbls. daily, from Venezuela; week ended October 1, 60,000 bbls., or 9,000 daily, from Venezuela; week ended September 24, all from Mexico.

REORGANIZE BUSINESS AS ACEWOOD PET. CO.

OLEAN, N. Y., Oct. 11.—The domestic business heretofore conducted by A. C. Woodman and Clinton H. Longshore trading as Refiners Petroleum Co. will be carried on by the same partners as Acewood Petroleum Co. The company has offices at No. 17 Battery Place, New York City. The Acewood Petroleum Co. buys and sells petroleum products. Associated with the company are a number of former employes of the Sinclair Consolidated Oil Co. In addition to doing a large domestic business the company has a foreign office in charge of a man of long experience in the sale of petroleum products in Europe. A. C. Woodman is recognized as marketer of petroleum. Mr. Longshore was for some time in charge of the foreign business of the Sinclair company and for some years an understudy of Mr. Woodman in the service of the Union Petroleum Co. H. D. Hagadorn of Olean, long a Sinclair salesman, is a member of the Acewood Petroleum Co.'s sales organization.

RESUME REFINING RATE CASE ON OCTOBER 20

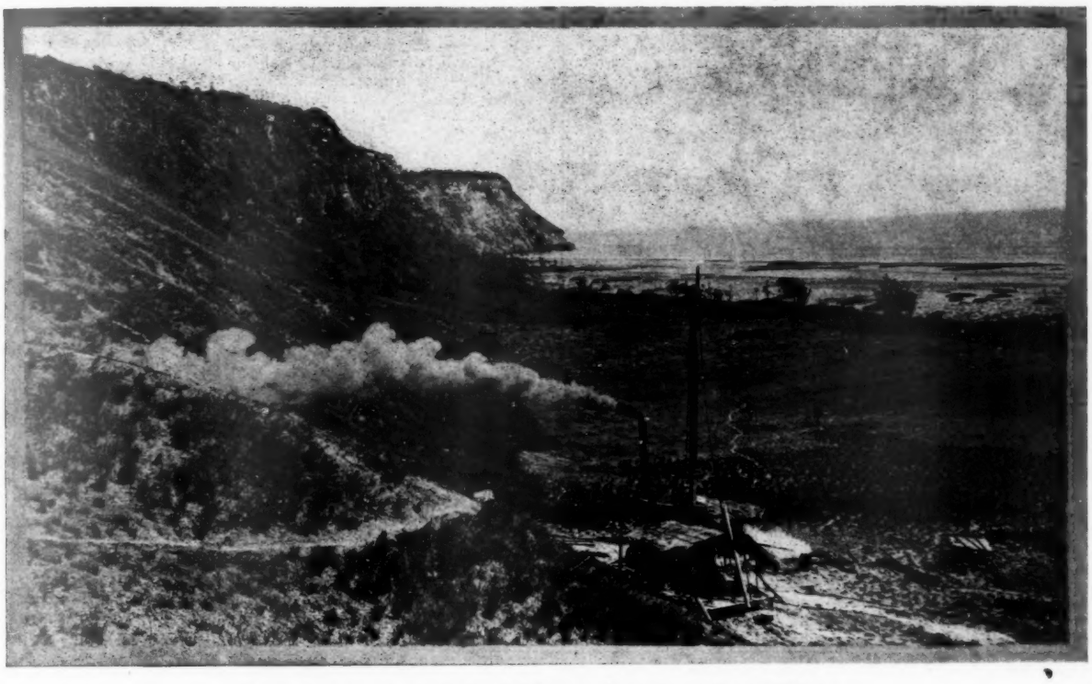
(Continued from Page 90)

in the Mid-Continent are excessive with the special allegation that the complainants are being discriminated against in favor of the Arkansas, Kansas, Louisiana, Missouri and Texas refiners. This case is known as the Interstate Commerce Commission Docket No. 16,065.

There are several other phases to the rate controversy. The Oklahoma Refiners Association will be represented at the hearing. This association is composed of refiners located in South Oklahoma centering in the Ardmore area. It is understood that this group of refiners is concerned primarily in preventing any change in the existing rate structure which places them on an equal basis with the northeast Oklahoma refiners.

It is expected that with the resumption of the hearing October 20 the new cases will be consolidated with the old so that a general hearing may be held. Just how far the Fort Worth hearing will go is not known. It is generally agreed, however, that the hearing will not be final in the rate matters under controversy. Many traffic authorities state that it will be just one more step in bringing a general investigation of rates on petroleum products which they believe is the inevitable outcome of the present Mid-Continent rate controversy.

You will find the "Leidecker" at work wherever well drilling is being done



Here is one at work in Africa under unusual conditions.

We have a machine for your needs, capacity 500 to 5000 feet.
Your request will bring our catalogue with the details.

THE LEIDECKER TOOL COMPANY
Main Office and Works: Marietta, Ohio
Branches: Bartlesville, Okla. Basin, Wyoming Casper, Wyoming

METERS

For Measuring Production and Distribution of

Oil–Gasoline–Gas

and Other Fluids

Also manufacturers of meters for water, gasoline, oil, air and other fluids.

Please note change of address

PITTSBURGH METER COMPANY
General Offices and Works:
7800 Susquehanna St., PITTSBURGH, PA.

SALES OFFICES:

New York—50 Church St.
Chicago—8 South Wabash Ave.
Kansas City—Mutual Bldg.
Columbia, S. C.—1433 Main St.
Seattle—4038 Arcade Bldg.
Los Angeles—Union Bank Bldg.

If You Use

Commercial Flour Sulphur

We can supply you to your advantage
Write us concerning your requirements

Texas Gulf Sulphur Company
(Incorporated)

General Offices
41 East 42 Street, New York

Sulphur Deposit and Plant
Gulf, Matagorda County, Texas

McCord Class "B" Lubricator on slush pump.

McCord Class "B" Lubricators make a good slush pump better - - -

No matter what the operating conditions are, McCord Lubricators assure the continuous working of your slush pump.

Install a McCord Lubricator, fill it with oil and keep it filled, and forget your lubricating problems.

Write for Bulletin 47

Sold by NATIONAL SUPPLY CO., All Branches

McCord RADIATOR & MFG. CO

Lubricator Division

DETROIT, MICH

Manufacturers of McCord Dependable Lubricators, McCord and McKim Gaskets, McCord Radiators.

EASTERN FIELDS

(Continued from Page 50)

C. Wolfe is due in the Big Injun sand at a test on the L. M. Thacker farm. In the same district, Baker Brothers are due on the Hal Baker farm. Wolfe & Black have moved a drilling machine to a location on the R. L. Black farm. The Moore Rock Oil & Gas Co. is drilling a test on the James Madden farm. In Union district, Roy & McComas are rigging up on the Ellen & William Riter farm. The same company has started to drill on the Andrew Howard heirs' and Frank Mackey farms.

Southwest Pennsylvania

The Southwest Pennsylvania Fields are completing very few wells. In Richhill Township, Greene County, McCracken & Orndorff have a gasser in the Gordon sand at a test on the James McClelland farm. The Dunbar Oil & Gas Co.'s test on the M. S. Hostuttler farm in Springhill Township, is dry and abandoned. In Richhill Township, J. J.& G. W. Boundy are drilling a test on the W. S. Hughes farm. In the same township, the City & Suburban Gas Co. started to drill a test on the Emma C. Iams farm. In the Murdocksville Field, old territory, Lewis & Co. completed a test on the J. R. Wilson farm, a small gas well in the salt sand.

In Plum Township, Allegheny County, the Morse Oil & Gas Co.'s test on the James McAlister farm is a duster. In McCandless Township, W. M. Walley's test on the C. C. Huch farm is a 3-bbl. pumper. Inside of the borough limits of Baden, Beaver County, Black Brothers have a light pumper on the Ehrman lot.

Near the West Virginia State line, in Springhill Township, Greene County, the Dunn-Mar Oil & Gas Co.'s test on the Daniel King heirs' farm, near Garrison, is a gasser in the fifth sand good for 3,500,000 feet. In the same township, Edward Milligan & Co. have a Gordon sand gasser on the Morris Pethel farm. In Perry Township, the Carnegie Natural Gas Co.'s test on the John Lemley farm is a gasser good for 3,000,000 feet in the Big Injun sand.

CENTRAL WEST

(Continued from Page 56)

the Ohio Oil Co. abandoned No. 2 A .A. Eaton farm, Section 35; No. 6 E. L. Gray, Section 36, and No. 9 on the Clinton Thorn, Section 12.

In Wabash Township, Wabash County, Phipps, Blosser and others' No. 1 on the H. W. Winter farm, Section 24, is completed, showing for an excellent producer, so much so that the owners have started work on Nos. 2, 3, 4 and 5 on the same farm. In the same section W. M. Price and others have started No. 1 Clara Armstrong, and in Section 25 Phipps Blosser and others are drilling No. 1 Lovilah Chapman farm. Wirebaugh & Ballard are about due in with No. 2 on the Clara Adams, Section 23. No. 1 on this farm, started the development work in that part of the Allendale Field. Hartman, Parrott & Young have also started No. 1 C. E. Courter farm, Section 23, and an offset to the Clara Adams farm well.

Work is quieting down throughout Illinois as the only spot where anything worth while is being done, centers in the Allendale Field of Wabash County.

CANADIAN FIELDS

(Continued from Page 53)

D. O. Credille, head driller, encountered several gas sands and four distinct oil horizons, both an oil sand and a gas sand being present in the open hole at the bottom. The drilling equipment is being moved to No. 2 location on the same section where a derrick has already been erected for another test.

British Petroleum's No. 2, Section 30-46-6w4 which was drilled in last fall and British Petroleum's No. 4, in the same general locality, which came in productive a few weeks ago will both be put on the pump this month. Last year a production of 200 bbls. a day heavy crude was claimed for No. 2 and, according to all indications, No. 4 ought to be a better well. In any event the company is going ahead and putting both wells on a definite producing basis. No. 4 is flowing a little oil, but the field superintendent believes there is not enough gas in this section of the field to maintain it as a flowing well. Tests of the crude oil from No. 4, made by J. A. Kelso of the University of Alberta, show specific gravity .9630, or 15.4 Baume, with the following analysis: Gasoline, 5.1 per cent; kerosene, 30.0; lubricating oil, 47.8; residue, 16.8; distillation loss, .2. The crude is somewhat lighter than that from No. 2 well drilled last fall, which showed .985 specific gravity 12.1 Baume, and analyzed as follows: Gasoline, 2.2; kerosene, 30.0; lubricating oil, 39.0; residue, 28.8. The oil has an asphaltic base.

British Petroleum's No. 3, Section 29-45-6w4 failed to measure up to expectations. Water developed about the time fixed for the official demonstration, and when the well was cleared of mud and water, no oil appeared. Fishing tools were secured and the liner taken out, when oil indications again developed; but the hole is being drilled to the lower sands for commercial production. British Petroleum's No. 5 is being rigged up, the rotary outfit from No. 4 being transferred to the new site; and the new test will spud in about October 21.

The Globe Drilling Co. of Edmonton, which is already drilling the old Mutual well on Section 14-17-27w4, west of Wetaskiwin in the Pigeon Lake area, has located a second test in the Lima-Wainwright Field in Section 28-45-7w4, midway between the Maple Leaf and British Petroleum's wells.

Imperial Oil, Ltd., workmen have extinguished the Gratton Oil Co.'s burning gasser on Section 4-45-8w4 which has been on fire for nearly a month.

Refinery for Wainwright

The Great West Producers & Refiners, Ltd., capitalized at $300,000, has been organized under a Dominion charter with Edmonton backing to construct a refinery at Wainwright, to handle the heavy crude production of the Irma-Wainwright Field.

A new development in east central Alberta has been the leasing through the Edmonton land office of 880 acres underlying the waters of Baxter Lake, for oil and gas. Portions of the acreage are already under lease for alkali purposes, though no development has started.

At Ponoka, the Alberta Government is deepening the gas well on the Ponoka asylum property for additional production.

In southern Alberta, F. H. Stover has started preparatory work of the Community Oil Wells test on Section 19-14-1w4 in the Many Island Lake Field. The hole, which is down 2,471 feet with some gas production, is being got into shape to resume drilling and will be carried to 3,000 feet for a test of the deeper formations. Actual drilling will resume about the end of October. Mr. Stover is now finishing a test for Prairie Oils, Ltd., near High Prairie, in northern Alberta.

Pakowki Lake

In Pakowki Lake district near the Alberta-Montana boundary, the Sanctuary Oil Co. (Thompson Syndicate) is erecting a new derrick on Section 9-5-8w4 and will carry its test deeper. The original derrick was wrecked by an accident some months ago.

In Montana, the Red Deer Sunburst Oils, Ltd., of Red Deer, Alberta, is spudding in No. 3 well as an offset to the Newton & McMurray producer, which is reported making 175 bbls. a day. The Red Deer Sunburst's No. 3 is 440 feet due east. Red Deer Sunburst's No. 1 is reported making a settled production of 50 bbls. a day and No. 2 about 20 bbls.

In Northern Alberta, S. E. Slipper and associates have filed on 25,000 acres between Fort Vermilion and Vermilion Chutes on the Upper Peace River. It is understood the test drilled by the Lord Rhondda interests in this area about 1915 indicated a possibility of oil between 600 and 700 feet.

CALIFORNIA FIELDS

(Continued from Page 53)

because of caving. The Associated on Section 12-23-18, Bolsa Chica on Section 30-23-19 and the Marland on Section 12-21-17 have made technical spuds and are awaiting the outcome of the General Ptroleum's test. Hugh McPhail is still working on Section 13-24-18, trying to shut off water at 1,460 feet.

The Henderson Petroleum Corp. secured an excellent showing in No. 1 Wheeler at Ventura at 1,190 feet and the company expects to secure a good production at this shallow depth. E. J. Miley is cleaning out No. 1 Smith in San Luis Obispo County, Section 23-31-12, at 1,100 feet and the Oakridge Oil Co. is drilling ahead in No. 1 Mahoney at 2,450 feet in a blue shale. The Nugent Oil Co.'s No. 1 Catlin in Santa Barbara County, drilled to 3,678 feet, was shot at 1,608 feet and an effort will be made to produce from an upper zone. The General Petroleum on Section 6-9-23 at Santa Maria is making slow progress at 1,300 feet, due to a hard formation. The Petroleum Midway ran into a fishing job in No. 1 Sargent in San Benito County at 5,145 feet. Unless the fish is recovered in a short time, the company will probably abandon the hole at this depth, as no favorable indications have been noted to date.

Oil field operations reported to the State Oil and Gas Supervisor show 18 new wells started, compared with 21 during the previous week, a total for the current year to date of 1,113, compared with 1,105 at the same date last year. There were 30 tests made for water shut off, 7 more than during the previous week. Deepening or redrilling jobs totaled 21, as compared with 22 during the preceeding 7 days, a total of 656 for the current year to date, compared with 473 at the same time last year. There were two holes abandoned, bringing the 1924 total to 358, compared with 222 at the same date last year. Permits were issued for the following new wells:

Torrance

Location, Company, Well—
Standard Oil Co.—
24-4-14 Joughin 17.
24-4-14 Joughin 18.

Long Beach

San Martinez Oil Co.—
29-4-12 Booth Community 5.

Dominguez

Associated Oil Co.—
34-3-13 DeFrancis 2.
34-3-13 DeFrancis 3.

Rosecrans

Barnsdall Oil Co.—
18-3-13 O'Dea 2.
7-3-13 Marine Oil Corp. 31.
20-3-13 Marine Oil Corp. 32.

Los Angeles County

Associated Oil Co.—
15-4-17 Newhall 1.
8-3-14 McFadden-McDowell & Bering 1.

Inglewood

Standard Oil Co.—
16-2-14 Stocker 1.

San Diego County

11-17-2 L. Overbaugh & Rufus Choate 1.

Santa Barbara County

12-4-25 S. W. Lea, et al 1.

Midway

15-31-22 Manley & McGinn 9.
24-31-23 Midland Oilfields Co., Ltd. 12.
32-31-24 Pacific Oil Co. 57.

Kern

20-28-28 Wilmar Oil Co. 5.

N. LOUISIANA-ARKANSAS

(Continued from Page 43)

casing at 179 feet in No. 1 Betz, Section 41-21-5e.

Natural Gas Producing Co. commenced drilling No. 2 Gladney, Section 8-21-4e, on October 6 and now drilling at 100 feet.

Ouachita Parish

Chester Carbon Co. commenced drilling October 1, No. 1 Wetzel, Section 36-29-4e, and now drilling at 287 feet.

Dickson & Frue are drilling No. 1 Goodwin, Section 24-18-2e at 190 feet.

Ladel and others set 6-inch casing at 894 feet in No. 30 fee, Section 10-19-5.

Ouachita Natural Gas Co. commenced drilling No. 3 Trezevant, Section 40-20-4, October 5 and now drilling at 150 feet.

The Southern Carbon Co. set 8-inch casing at 944 feet in No. 39 fee, Section 7-19-5; drilling No. 40 fee, same section at 1,900 feet; set 12-inch casing at 189 feet in No. 41 fee, same section.

West Carroll Parish

Orion Oil Co. is drilling No. 1 Bain Wagon Co., Section 23-23-10e, at 3,765 feet.

Phillips and others are drilling through shale at 1,110 feet in No. 1 Davis, Section 15-18-20.

Russell & Kent are drilling gumbo at 945 feet in No. 1 Emerson, Section 7-19-19.

Hempstead County

Fullilove Drilling Co. is drilling No. 1 Ford, Section 34-14-23, at 1,640 feet.

Nevada County

Greeson and others are drilling No. 1 Lester Mill Co., Section 31-11-20 at 1,941 feet.

Kenark Oil Co. is drilling through shale at 1,810 feet in No. 1 Nonen, Section 12-13-21.

Lockart and others are drilling rock at 1,215 feet in No. 1 Cornelius, Section 17-10-22.

PRINCIPLES OF OIL SHALE RETORTING

(Continued from Page 92)

are multiplied by the respective crude oil yields of the two shales."

Relative value of shale
No. 1 .....17.10×50=855
Relative value of shale
No. 2 .....21.00×35=735

The foregoing discussion of index numbers was taken from Bureau of Mines Bulletin No. 210, "Oil Shale—An Historical, Technical and Economic Study," by Marin J. Gavin.

In the present investigation the relative values of each sample tested have been determined by the method outlined above.

Relative value of oil from Grand Valley shale (United States Bureau of Mines assay retort), percentage of tops 39
Saturation 42
39+42=1638, index number of oil.

Relative value of oil from Grand Valley shale (oil retorted in experimental retort, Colorado School of Mines).
Percentage of tops 40
Saturation, per cent 56
40×56=22.40, index number of oil.

Comparison of the economic value of the shale by the different methods of retorting (United States Bureau of Mines assay retort and experimental retort).

Crude oil yield of the shale, calculated to gallons per ton:
U. S. B. M. assay retort 57
Experimental retort 47.7

Relative value of shale by U. S. B. M. assay retort:
16 38+57=933.6, index number of shale.

Relative value of shale by experimental retort:
22.40+47.7=1068.5, index number of shale.

Remarks—A comparison of the index numbers as obtained by the Bureau of Mines assay retort and the experimental retort will give the reader a fairly accurate criterion by which to judge the initial performance and method of procedure employed with the experimental apparatus.

It is the hope of the writer to be able to continue this investigation which is to date just well under way. It is felt that the work is almost to be considered pioneer work in the scientific investigation of oil shales. The use of catalyzers to increase the yield of low boiling hydrocarbon oils from petroleum oils is not new, but in the field of oil shale it is untrodden ground. In undertaking this investigation a material is being dealt with regarding which little is known, both as to methods of application and products derived. For these reasons, the writer invites suggestions or criticism of a constructive nature as to the conduct of the work.

EARNINGS HIGHER

Earnings of the Canadian Western Natural Gas, Light, Heat & Power Co. of Calgary for July, 1924, were $34,296, compared with $28,748 for the same month last year, an increase of $5,548. From October to July 31 the earnings amounted to $840,736, against $808,398 in the corresponding period of the previous year, an increase of $32,338.

JOLT!
JOLT!
JOLT!
On the beam, constant shivers run through your drilling line. It bangs the sides of the hole, stretches forcibly, springs back violently, carries a whale of a weight. That's why B & B Non-Kinking Drilling Lines are made strong, elastic, friction-resisting.
The slack above the screw dares not kink or there's the deuce to pay when the string is withdrawn. B & B Non-Kinking Drilling Line is soft-laid. It won't kink.
Top-speed bends over crown-block and drum play hob with "stiff" rope. B & B Non-Kinking Line is very pliable.
Drilling lines made for all fields, and to your special order. Write for Catalog K2, and name of nearest distributor.
Broderick & Bascom Rope Co., St. Louis, Mo.
Branches: New York and Seattle
Factories: St. Louis and Seattle
G-254
B & B
Non-Kinking
Drilling Lines

25 CENTS per line first insertion; 15c per line each additional insertion. Cash in advance.

CLASSIFIED WANTS

MAIL your advertisement now. It will be published next week. Cash with order.

FOR SALE—EQUIPMENT

A BARGAIN—Practically new 10-ton Holt Caterpillar and three Troy Trailers all in A-1 condition. Address Box 82, Morris, Okla.

USED TUBULAR BOILERS, Air Compressors, Gas and Steam Engines, Pumps, Pulleys, etc. We buy and sell. What have you to offer? Ask for our stock sheet of used machinery.
LANDRETH MACHINERY CO.
Joplin, Mo.

FOR SALE—Complete Gasoline Plant, 2 70-H. P. Bessmer gas engines, 1 12x6x 12 Ingersol Rand Compressor, 1 17x12 Ingersol Rand Duplex Pump, high and low storage tanks, electric light plant. R. W. Russell, St. Marys, W. Va.

ENGINES, Steam, Gas and Gasoline. Pumps, Air Compressors, Mining and Hoisting machinery. Machine shop, Wood working, Factory, Mill and Electric Machinery and supplies; furnish and install freight, passenger and hand elevators. New, slightly used and rebuilt machinery at a bargain. Builders of machinery and elevators.
RAFINER ELEVATOR WORKS
Kansas City, Missouri

FOR SALE—Eight 7-200-gallon tank cars, standard gauge, also five 5,000-gallon tank cars, for trolley car track; sixteen 1-ton Koppel coal charging cars for boiler rooms. Immense stocks of Pipe, Valves and Fittings in all sizes. Wire, phone or write. Tate, Fisher & Rice Co., 258 Washington St., Boston, Mass. Telephone Main 8365.

WHITE SPACE at the top and bottom of an advertisement makes it conspicuous. Ask for it in your next advertisement. Figure the cost at regular rates per line.

FOR SALE—One Putnam 24" swing by 24' bed screw cutting engine lathe. Will cut threads from 1/16- to 1". Also two 45 horsepower Charter Gas Engines in good repair. Address Wm. Schick, Topeka, Kans.

FOR SALE
Second hand pipe and oil well supplies yard, established in best location in center of oil fields. Box A436, The Oil and Gas Journal, Tulsa, Okla.

BOILER TUBES—For sale at a bargain, new 3-inch by 8-ft. boiler tubes. Our price will even interest dealers.
The U. S. Tool & Supply Co.
Steubenville, Ohio

Watch this space from time to time for real bargains
CASING
For Immediate Shipment
20,000 feet of 10-inch, 35-lb. casing; National and Youngstown make; one-run material; guaranteed in first class condition, with perfect threads and collars, including thread protectors, suitable for a high pressure oil, gas or water line. We have a price that will interest you.
JOS. GREENSPON'S SONS IRON & STEEL CO.
Department O St. Louis, Mo.

FOR SALE—3,400 feet of 5⅛-inch, 20-lb. pipe; good as new. Box 658, Muskogee, Okla.

FOR SALE
Several cars of 8¼-inch 24-lb., and 6⅝-inch, 17-lb. casing, all in first class condition and ready to ship. Write or wire Box A-432, The Oil and Gas Journal, Tulsa, Okla.

GUARANTEED TANK TABLES
Tracings $2.50 to $5.00 according to size of tank. White cloth prints 75c to $1.25 each. Blue prints 25c to 75c each. Send strapping report and instructions to H. F. Heydrick, 208 South 12th Street, Muskogee, Okla.

FOR SALE—Bessemer gas engines 15 to 165 h.p. A lot of others up to 350 h. p. Belt and direct drive compressors. Oil and steam engines. Generators and compressors. R. W. Russell, St. Marys, W. Va.

FOR SALE—EQUIPMENT

TANK CARS
8,000-gallon, all steel construction, with steam coils. Bargain price.
In stock for immediate shipment; cars of any kind, both passenger and freight.
HOUSTON RAILWAY CAR CO.
Houston, Texas

FOR SALE—150 feet of 70-pound 15½-inch; 1,000 feet 40-pound 10-inch; 2,700 feet 8¼-inch 32-pound 8-thread and 3,400 feet of new 24-pound 6¼-inch 10-thread J. & L. Woodlawn. Special casing; 100,000 feet of 2-inch line; 20,000 feet of 2-inch tubing and rods; also excellent powers, engines, tanks and other equipment. J. F. Arnold Co., Decatur, Ind.

BRAND NEW, original crates, 2 No. 4 Toledo pipe threaders for 9", 10" and 12" pipe. Price $185.00 each f. o. b. cars, New York. Allen Ashley, 152 W. 42nd Street, New York, N. Y.

SPECIAL SALE OF TRAILERS
Roller-bearing steel trailers; 1½ and 2-ton capacity; complete or parts for same at bargain prices; come and see them. Reedy Auto Truck & Trailer Co., 900 N. Xanthus, Tulsa, Okla., Osage 862.

FOR SALE—A sacrifice, two 38 Star tractor drilling machines in good condition; plenty good tools; $2,000. Box 496, Bowling Green, Ky.

FOR SALE
Complete string of standard tools from 18" down. 45 h. p. Oil well boiler, everything in good condition, would consider trade on clear Kansas land. C. E. Hawks, Emporia, Kansas.

12" PLAIN END PIPE CAPS
For sale, two miles twelve-inch plain end thirty-pound pipe ready for loading Independence, Kans.
HOCKMAN & FEES
Chanute, Kans.

LEASES—PRODUCTION

SELL LEASE Oklahoma oil land, near production. Timbered coal section. Belle Clark, 216 De Forest Ave., Bridgeport, Conn.

PRODUCTION—Large or small; drilling acreage, leases, royalties. Make specialty of fee acreage. Large acquaintance in Wichita, Clay, Baylor, Archer, and Wilbarger Counties. Stehlik & Baber, Kemp Hotel, Box 467, Wichita Falls, Texas.

MISSISSIPPI next big oil State; 10,000 acres leases, Grenada County for well; good geology. W. C. Brooks, 282 S. Front St., Memphis, Tenn.

SHALLOW PRODUCING lease for sale cheap; cash or terms. Several locations to drill both oil and gas. Fully equipped. Carl M. Betz, Wagoner, Okla.

BUSINESS OPPORTUNITIES
Can get up 25,000 to 50,000 acres of producing oil and gas lease in three of Kentucky's coming oil producing counties—10-year leases, 10-cent rantal—at a cost of 40 cents per acre. For full partiurclers address, Keene Lutes, Danville, Ky.

PRODUCTION FOR SALE at bargain prices, in the Moran shallow oil field. Address W. F. Powell, Box 557, Moran, Texas.

THE SCHEME of life is so arranged that some men have capital and need equipment, while others have salable articles and need cash. For these men, The Oil and Gas Journal Classified Section provides an excellent opportunity to broadcast their wants.

LEASES AND DRILLING CONTRACTS
Proven acreage close to large producers. Blocks Y and Y-2, Hutchinson County, Texas. R. P. O'Grady, Suite 2, Old Post Office Building, Amarillo, Texas.

FOR SALE—At bargain prices, oil and gas leases, production and royalties in the Kentucky shallow fields. For full particulars and maps, address W. P. Harley, Bowling Green, Ky.

LEASES—PRODUCTION

ASHTABULA COUNTY, Ohio gas and oil land, heart old gas field, Markham gas station, pipe lines. Gas wells on lands adjoining. This sixty-three acres for sale on main paved highway, valued for gas, oil, orchard tract, gentleman's country home. Near college town and county seat. Sixty miles east of Cleveland. Part of "Noble" estate just closing, price $6,500. Address W. D. Port, 10024 Burton Ave, Cleveland, Ohio.

LEASES FREE
To parties who will drill one well at once in Clark and Edgar County, Illinois, close to production, no dry holes, depth 300 to 600 feet. Address Box 192, Rockville, Ind.

ROYALTIES—in Routt and Moffat Counties, northwestern Colorado. Buy now and get in early on this important field. F. W. Thomas & Co., Mount Harris, Colo.

WHITE SPACE at the top and bottom of an advertisement makes it conspicuous. Ask for it in your next advertisement. Figure the cost at regular rates per line.

SHALLOW FIELDS
Leases in Wichita, Archer, Young, Baylor, Throckmorton, Shackelford and Callahan Counties, Texas. Lowest prices best locations, near drilling wells. Write for list. P. R. McIntosh, 215 Neil P. Anderson Bldg., Fort Worth, Texas.

OIL LEASES on Isthmus of Tehuantepec, Mexico, at very reasonable prices. This district is considered as the Oil Reserve of Mexico, and produces high gravity oil 34 degrees with paraffin base. Good railroads and deep rivers traverse this region, affording unexcelled facilities for transportation. Inquiries solicited. A. J. Rivas, la Iturbide No. 7. Mexico. D. F.

COLORADO NEW MEXICO
I am scout and geologist for large operating company, can secure for you, direct from owners, best leases and royalty on good structures where you will get action. If interested write. Geologist, 824 West Abirendo St., Pueblo, Colo.

FOR SALE
One Hundred Forty acres oil and coal land
Gibson County, Princeton, Ind.
Located 2½ miles from Princeton, all under cultivation, good improvements, spring water, wells on farm producing 75 barrels per month, 20 years old—depth 850 to 900 feet—initial production 15 barrels. Plenty of good locations for new wells. Will sell this land including lease of 40 acres adjoining with one well producing, all coal and oil rights included. Price $250 per acre, for the 140 Gas for pumping wells.
Frank M. Harris
Princeton, Indiana

WESTERN KANSAS WILDCATS—Will trade acreage for casing, tools, rigs, 6" Ideal irons, trucks, and for acreage favorably situated near other drilling wells. Our wells on structure which will stand exacting check. Quick action necessary. Box A-422, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE—Oil leases and royalties. New developing field. Five wells going down. Kingfisher and Logan Counties. H. M. Godfrey, Crescent, Oklahoma.

ONE OF the best tracts in the Gulf Coast. It is the north flank of a known dome and resembles Abrams at West Columbia. It is located 5 miles south of El Campo, Texas. A good offer will take part of the east half of the NW quarter of Section 52. Address George Bauer, 1011 Chenevert Street, Houston, Texas.

S. E. NEW MEXICO
For sale protection acreage on Manning Dome offsetting holdings of Arkansas Fuel Oil Co. and the Ohio Oil Co. Guaranteed to be on structure. Price $3 to $5 per acre. W. H. McCullough, Roswell, N. M.

LEASES—PRODUCTION

OKLAHOMA new commercial lease near production and drilling wells priced to sell. Maps and prices on request. 801 Braniff Bldg., Oklahoma City, Okla.

GUADALUPE COUNTY LEASES
$3 AN ACRE
Leases between Seguin and Cibilo River, in Gudalupe County, Texas, where dozens of the largest companies in the United States hold leases, and where several tests are soon to be drilled, can be had today for $3 an acre. Get particulars.
We also have leases along Marathon Fold and Balcones Fault from 10 cents an acre up. Here are a few of them:

Reagan County	$3.50 an acre
Pecos County	1.00 an acre
Medina County	50c an acre
Crockett County	2.00 an acre
Crane County	1.00 an acre
Gillespie County	10c an acre

30 other counties.
Free map of Texas, showing the Marathon Fold and Balcones Fault is given with each inquiry. Write today for our latest list of bargain leases in Texas and free map. No obligation.
GULF REALTY CO.
291 Bedell Bldg. San Antonio, Texas

DRILLING BLOCK on structure in Western Kansas. Will give 8,000 acres for small bonus and 3,500-foot test. This block near tests being drilled by Amerada, Marland, United and others. Box A-430 The Oil and Gas Journal, Tulsa, Okla.

FOR SALE—Close-in royalty to Cromwell Pool. Also close-in lease to new Russell County, Kansas, Pool. Box A-421, The Oil and Gas Journal, Tulsa, Okla.

SURE SHOT drilling contract; 40 acres, sections 20, 21, and 13, Block Y, Hutchinson County, Texas. One mile from Prairie big well, in Section 23. R. P. O'Grady, Suite 2, Old Post Office Building, Amarillo, Texas.

FOR SALE—Leases close to Marshall-Degenther test, going down on Swanner lease in Franklin County, and near Wood County line. Called Scroggins well. On good structure, defined by reliable geologists, as well as being O. K.'d by Henry Zachary; 5-, 10-, and 25-acre blocks one-half mile to 3 miles, $2 to $25 per acre; well drilling at about 1,700 feet; strong oil and gas showing at about 900 feet. Salesmen wanted. R. W. Dykes, Box 466, Winnsboro, Texas.

TEXAS OIL LEASES in Caldwell and Bastrop Counties comprising 17 separate parcels, aggregating about 2,200 acres for quick sale. Leases four years to run. No reasonable offer refused. These leases situated about 6 to 7 miles from Luling Field. Address, Box A-412, care The Oil and Gas Journal, Tulsa, Okla.

IN READING The Oil and Gas Journal you will be taking the best means possible to keep yourself acquainted with the progresisve developments and changes that are continually going on within the industry.

WE ARE in market to purchase producing royalties in blocks from twenty-five to fifty thousand dollars cash. Box A-427, The Oil and Gas Journal, Tulsa, Okla.

HELP WANTED

SUPERINTENDENTS, engineers, executives, now earning $3,000 to $25,000, will find our individual, confidential service a dignified and effective medium to make desired connections. Personally conducted by Mr. Jacob Penn, the eminent employment authority, known to leading business men throughout America. Not employment agency. Inquiries solicited only from persons with records of successful performance and stability. Jacob Penn, Inc., 305 Broadway, New York.

25 CENTS per line first insertion; 15c per line each additional insertion. Cash in advance.

CLASSIFIED WANTS

MAIL your advertisement now. It will be published next week. Cash with order.

HELP WANTED

WANTED—"Live wire" Mid-Continent representative. Prefer engineer or salesman now covering the territory who can handle our attractive proposition with present line. Address Box A-401, care The Oil and Gas Journal, Tulsa, Okla.

POSITION WANTED

CAN SUPERINTEND many factories. Contractor and builder of carbon black factories, can tell the different grades; have had 20 years' experience. Can look after drilling. Box A-443, The Oil and Gas Journal, Tulsa, Okla.

DRILLING and producing superintendent, several years' rotary and cable tool experience; graduate civil engineer, possessing excellent recommendations and personality desires responsible position. Box A-441, The Oil and Gas Journal, Tulsa, Okla.

WANTED—Position by experienced man for South America or any other country. Many years of experience as drilling and production superintendent in India and Mexico. Speak and write English, Spanish, German, and Dutch. References of highest character. Box A-444, The Oil and Gas Journal, Tulsa, Okla.

I WOULD like to represent some substantial equipment firm in new Colorado oil fields. Would invest in moderate way if required. Box 1393, Greely, Colo.

ACCOUNTANT with a number of years experience in oil accounting, thoroughly familiar with the producing, refining, pipe lining and selling of oil. Wants to make a connection with an oil company in need of the services of a young man qualified to handle any work that presents itself in an oil office. Box A-437, The Oil and Gas Journal, Tulsa, Okla.

ADVERTISING RATES

The cost of advertising in the Classified Wants Section is very reasonable. It costs 25 cents a line for the first insertion and 15 cents a line for each following insertion. Six words usually make a line. Cash with the order.

This useful table will help you to figure the cost of advertising in this Classified Section. Keep it for reference:

	One Time	Two Times	Three Times	One Month
3 lines..	$ .75	$1.20	$1.65	$2.10
4 lines..	1.00	1.60	2.20	2.80
5 lines..	1.25	2.00	2.75	3.50
6 lines..	1.50	2.40	3.30	4.20
7 lines..	1.75	2.80	3.85	4.90
8 lines..	2.00	3.20	4.40	5.60
9 lines..	2.25	3.60	4.95	6.30
10 lines..	2.50	4.00	5.50	7.00

TELEGRAPH ENGINEER with wide experience telegraph, telephone and general electrical work, now employed in an engineering and supervisory capacity, wants similar work with oil corporation. Highest references. Address E. R. Wakefield, 300 Chamber Commerce, Denver, Colo.

POSITION WANTED—Refinery superintendent, 18 years experience, will go anywhere. Address Box A-410, care The Oil and Gas Journal, Tulsa, Okla.

LIVE SALES REPRESENTATIVE wants connection with well established manufacturer. Has had twelve years successful selling experience in Mid-Continent and Coastal Oil Fields. Wide personal acquaintance in refinery and manufacturers of oil field equipment. Prefer engineering or steel line. Engineering and Metallurgical experience. Have complete office and addressograph list of all refineries. Best references. Address C. B. (Boots) Kennedye, 2024 Railway Exchange Building, St. Louis, Mo.

POSITION WANTED

IF I had my Wants listed in this section they would receive the same attention that thousands are giving the good advertisements already here.

LIGHT OIL MAN — Refinery man with 10 years' experience, from loading rack to general superintendent, wants good connection. Practical man. Address Box A-400, care The Oil and Gas Journal, Tulsa, Okla.

PETROLEUM OPERATOR and engineer, with over 25 years' practical experience in most of the productive fields, and a recognized petroleum authority in America and Europe, offers services as consulting engineer or active executive position with an independent company or firm. Has an unusually extensive and valuable acquaintance and successfully financed many large enterprises. Highest class technical and commercial credentials. Negotiations will be strictly confidential. Petroleum Operator, care The Oil and Gas Journal, Tulsa, Okla.

EXPERIENCED ROTARY driller and familiar with core barrel work, with several years experience in fields of States and have had some experience in foreign work. Would like work either domestic or foreign. Can furnish good references. Box A-434, The Oil and Gas Journal, Tulsa, Okla.

WANTED

WANT to purchase a Bignall & Keeler pipe machine. Advise size, condition and lowest cash price. Box A-440, The Oil and Gas Journal, Tulsa, Okla.

WANTED contractor to drill two 900-foot wells in Wyoming. Easy drilling. Have tools, 28 Star rig, furnished camp on lease. References required. Address G. M. Kyle, Burlingame, Cal.

WANTED—If you have money that you want to work for you, investigate my proposition. I have choice block of leases, about 3,000 acres, near other wells drilled and drilling; on good structure; will give interest in all leases and let you use the money to see that it is spent only in drilling, and not for promotion. I hold proof that there is large oil field here. Investigate. R. W. Dykes, Box 466, Winnsboro, Texas.

THE RESULT producing benefits of The Oil and Gas Journal Classified Wants Section is helping the men of the industry to get the maximum good out of their equipment.

Good machinery, equipment, etc., is being kept in operation by reason of alert men buying and selling through the Classified Wants Section.

These men know that it is economically sound for a concern to sell good equipment which it cannot use. Therefore, thrifty executives use the Classified Wants Section as an economizing move that is helpful to the entire industry.

Read the advertisements in the Classified Wants Section every week. It will help you.

WANTED — Block of securities to market on commission, by reliable house. Money should be for development. Brokers, U. S. Realty Bldg., Suite 512, New York City, N. Y.

WANTED to interest capital in a real oil proposition. Write us for information. References, Bradstreets, Banks and Supply Houses. Johnston Drilling Co., Inc., El Dorado, Ark.

WANTED—Producing royalties, Oklahoma and Kansas. Give full details. P. O. Box 502, Independence, Kans.

BUSINESS OPPORTUNITY

CAPITAL SEEKERS confronted with difficult financing problems should consult Amster Leonard, First Nat'l Bank Bldg., Chicago, Ill.

FOR SALE

Completely equipped machine shop employing 11 men, near shallow oil field, another now opening; a good paying proposition; 17 years in business; only shop in 50 miles radius; reason for selling, owners going into implement manufacturing business. Cameron Machine Shop, Cameron, Texas.

I OUGHT to be able to sell equipment through this section. It must bring good results, because it is filled with Classified Advertisements every week. Guess I'll try it.

JUST THINK. $2.80 will pay for sending a four-line advertisement all around the world four times. A four-line Classified Advertisement usually consists of 24 words and you know a great deal can be told in a few words. Mail your advertisement to the Classified Section now so that you will get in next Thursday's issue.

FOR SALE—Complete modern skimming plant, 2,500-bbl. capacity on 19.13 acres fee land. Situated on long right of way W. F. & N. W. Railroad, Grandfield, Okla. Will be sold at Sheriff's Sale, Court House, Frederick, Okla., November 6, 1924. For information, write P. O. Box 1893, Tulsa, Okla.

THE SMALL SUM that it costs to insert an advertisement in the Classified Section of The Oil and Gas Journal enables you to place your desires in the minds of men who are always interested in a good proposition.

OIL MAN, do you need a telephone at the well you are drilling? We can save you money on the building of your telephone and electric lines. Name the town and distance and we will be glad to submit our estimate on the complete installations. We are equipped and have the experience on telephone, electric and telegraph lines.

OKLAHOMA
HIGH LINE CONSTRUCTION CO.

805 Mayo Bldg.

Tulsa, Okla. Phone Cedar 2551

CORE DRILL your structure with diamond drills and reduce the hazard of wildcatting. Let us help your geologist correlate structure before you put cable tools at work. The cost is relatively small and the possible saving enormous. On well located tracts we will accept acreage in lieu of profits. Drilling Corporation of America, George H. St. Clair, General Manager. 205 Cosden Bldg., Tulsa, Okla. Phone Osage 8183.

FOR SALE—400 acres in zinc mining district, North Arkansas. A fortune for party with finances to mine the ore. Bargain for cash. Would trade for producing royalty. J. E. Allen, Mulberry, Ind.

PATENTS

EXPERT work in model making and building intricate mechanical apparatuses, reasonable charge. George Wood, 710 Wyandott St., Kansas City, Mo., third floor. Delaware 0949.

LETTERHEADS—PRINTING

CONSUMERS' LEDGERS
We are prepared to furnish from stock standard forms of Gas Meter Consumers Ledgers. Sample forms and quotations on request. First class material and workmanship.
DERRICK PUBLISHING CO.
Oil City, Penn.

WRITE your advertisement, mail it to The Oil and Gas Journal, and it will be placed in the hands of thousands of producers and refiners in all parts of the world. It doesn't cost much.

OIL FIELD LEGAL BLANKS—Leases, assignments, releases, township plats, gauge books, run tickets, time books, well records, etc. Request on your letterheads gets free catalogue. Olds Press, 215 East Third St., Tulsa, Okla.

ORCHARDS AND FARM LANDS

60,000-ACRE RANCH in fee, in heart of the wonderful Panhandle oil fields, Hutchinson County, Texas; 20 miles of Canadian River frontage; fenced and cross-fenced; good improvements. Watered by nine living streams; large lake and several windmill wells. Surrounded by many large producing and drilling oil wells. On very well defined geological structure; 55,000 acres not leased for oil and gas. Priced at actual land value. R. P. O'Grady, Suite 2, Old Post Office Building, Amarillo, Texas.

PECAN, orange, fig units. $10 monthly. Guaranteed care. Soon produce $500 yearly. Suburban Orchards, Dept. O, Oceansprings, Miss.

CHEMISTS

CHICAGO, ILL.—Benedict Laboratories, Ruprecht Bldg. Consulting and analytical chemists, specialists in cutting, lubricating, tanners, tempering and transmission oils and greases.

MAIL LISTS

HARD HITTIN Clean Cut Sales Letters, Booklets, Folders, Newspaper and Magazine campaigns prepared by Callahan and Staff, 6034 Hollywood Blvd., Hollywood, California, produce results.

FOR SALE DOGS

REGISTERED Bull Pups—Bulldog Park, 501 Rockwood. Dallas, Texas.

FROM NOW ON, When I want to do business with the real men of the petroleum industry, I'm going to put my advertisement right here in this Classified Wants Section.

OLD FRIENDS

IMPORTANT
Anyone knowing the whereabouts of S. H. Toothman, oil field driller or contractor, communicate at once with Ward H. Toothman, 313½ East Sixth Street, Okmulgee, Okla.

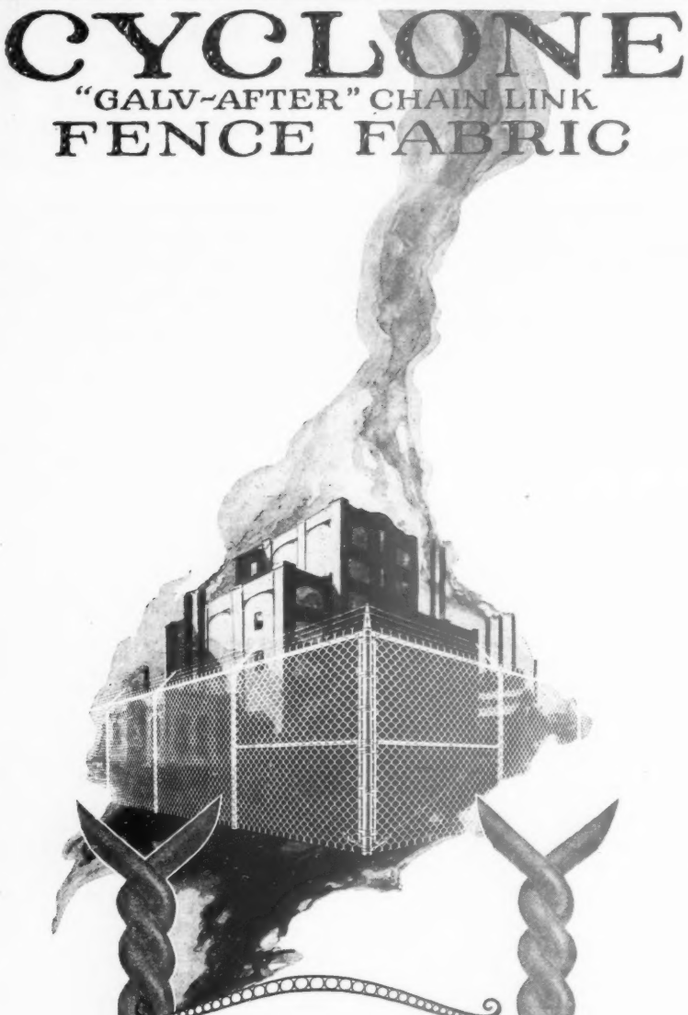
FOR SALE MAPS

MAPS
County Maps of Reagan, Upton, Glasscock, Sterling, in section and ownership. These maps are up to date with all wells showing status at time of mailing. Major lease holdings will be placed on in colors for additional charge. Scale: 1 inch = 1 mile. Address "Maps," Box 46, Big Lake, Texas.

CYCLONE

"GALV-AFTER" CHAIN LINK

FENCE FABRIC



You can buy more real value for your dollar today in chain link fence fabric than ever before. For Cyclone "Galv-After" Chain Link Fence Fabric resists corrosion, affords permanent property protection. Lasts years longer. No annual painting required.

"Galv-After" Chain Link Fence Fabric is Heavily Zinc-Coated (or Hot-Galvanized) by Hot-Dipping Process AFTER Weaving. It has a protective zinc-coating approximately five times as heavy as fence fabric made from wire galvanized *before* weaving.

We also build Iron Fence, in various patterns, for industrial use.

Write nearest offices, Dept. 26, for complete information.

CYCLONE
FENCE COMPANY
Factories and Offices:
Waukegan, Ill., Cleveland, Ohio
Newark, N. J., Fort Worth, Texas
Oakland, Calif.
(*Standard Fence Co.*)
Portland, Oregon
(*Northwest Fence & Wire Works*)

Cyclone "Red Tag" Fence and Products

The Mark of Quality Fence and Service

PROPERTY·PROTECTION·PAYS

GULF COAST

(Continued from Page 42)

is drilling below 825 feet. It is a formation test.

S. J. Hindman is rigging No. 2 Smith, 4 miles northwest of Anahuac in Chambers County, 40 feet from No. 1, abandoned at 1,800 feet. Walker and others No. 1 Hunt, between Goose Creek and Barber Hill on Cedar Bayou are drilling at 800 feet. E. F. Simms-Missouri Lincoln Trust Co. are starting No. 1 Castleman at Boiling Dome in Wharton County, where the Gulf Production Co. has been making formation tests and found the salt.

A company, of which C. N. Haskell, formerly of Tulsa, is a member, is rigging the first of five deep tests in the northern part of Walker County. The wells will be drilled to 3,500 feet. Gas has been found in that territory in the past at 960 feet and 1,400 feet. In Jackson County, the Vanderbilt Petroleum Co.'s No. 2 Seliner is drilling around 2,200 feet.

Southwest Fields

The runs of the Magnolia Petroleum Co. from the Webb County (Laredo) districts during September total 34,170.89 bbls., or an average of 1,139 bbls. per day. This company is drilling No. 13 Oachoa pasture. The Laurel Oil Co. (Mills Bennett) is deepening No. 6, which came in at 1,650 feet making 25 bbls. The Neuva Oil Co.'s No. 6 is pumping 50 bbls.

The Laurel Oil Co. is setting casing in No. 9 at 1,560 feet and the Alzonzo Oil Co.'s No. 6 Garcia is drilling. In the Wolcott Pool, the Weslaco Oil Co.'s No. 5 is drilling and Morgan and others' No. 1 is around 850 feet. The Cole Petroleum Co.'s No. 5 near Bruni is around 700 feet. Allsworth Brothers' No. 2 is at 1,700 feet. The Caroline-Texas Co.'s No. 6 is below 3,800 feet. Casing is set in the Richmond-Garcia Oil Co.'s No. 7 and Chandler & Gear's Nos. 4 and 7. Sprague's No. 1 is shut down at 2,150 feet.

Rockdale-Minerva

F. A. Bartlett's No. 1 Coulter, 1 mile north of Rockdale, is showing for a nice well at 1,100 feet. Liner is being set. It joins the Phillips on which the Lee-Phillips Oil Co. got a 175-bbl. well flowing by heads last June. The Texas Petroleum Co.'s No. 1 Phillips is 1 mile north of the Coulter. Lucky & Wilson No. 2 Moody is drilling, as is the Fogel Oil Co.'s No. 13 McLellan & Wolfrey's No. 1 Delgardo. The Sinclair Oil & Gas Co. has started No. 1 Smith, 6 miles northeast of Rockdale.

Calliham District

The Southern Natural Gas Co.'s No. 10 is rigged. The Grubstake Investment Co.'s No. 3 Jacobs is drilling with a location for No. 4 Brown. The South Texas Oil Co.'s No. 4 Cox is starting to drill. The Coyle-Concord Oil Co.'s No. 4 Frio is drilling. A derrick is up for the Black Panther Oil Co.'s No. 1 Nichols. The Three Rivers Oil Co. has a derrick for No. 3 Calliham. The San-Balt Oil Co.'s No. 3 Shriner is below 455 feet.

TESTING TAR SANDS ON ATHABASKA RIVER

CHATHAM, Ont., Oct. 11.—Considerable work has been done this season in the direction of further testing the tar sand deposits of the Athabaska district, in northern Alberta. S. M. Blair, assistant roads engineer in the industrial research department of the University of Alberta, made a detailed study of the deposits over 25 miles along the Athabaska River having been in the field with a party of five assistants since May. Samples of bitumen-saturated sand obtained by the party were examined by Dr. K. A. Clark of the University of Alberta. Detailed sections of the various beds were made throughout the entire distance and tests made of the relative qualities of the strata at different depths.

Early in the summer a shaft was sunk into one of the deposits to 40 feet depth, the location being on the House River near McMurray. This shaft was similar to those utilized in the oil extraction operations at Pechelbronn, in Alsace-Lorraine. The purpose was two-fold, first, to enable samples of tar sand to be secured at various levels, and second, to determine whether or not the crude oil content would flow. It was discovered there was no flow of oil, and that the Camsell method of shaft and gallery mining would not be practicable in this field. Considerable accurate data on the nature of the tar sands themselves were secured; the examination disclosing a marked variation in the quality of the deposits at different horizons.

S. C. Ellis, of the department of Mines at Ottawa, has been carrying on research work for the Dominion Government along somewhat similar lines. Two test holes were sunk by the Ells party and samples secured from a number of different horizons for shipment to various testing plants in Canada, the United States and Europe. Complete records were kept and this data will also be supplied to the laboratories conducting the tests. A shipment of 13 bbls. and 39 gasoline cans of tar sand samples was made at the close of the season to the various testing laboratories co-operating in the work of research.

OKLAHOMA OIL TAXES TOTAL A LARGE SUM

OKLAHOMA CITY, Okla., Oct. 12.—State Auditor C. C. Childers collected during the quarter ending September 30, $1,854,450 in 3 per cent crude oil gross production tax revenue. This was the largest amount ever collected in any quarterly period. It represented tax on oil produced during April, May and June. Collections during the same period last year amounted to $1,753,632. For the second quarter of this year they totalled $1,539,244.

In the recent total of quarterly collections was about $200,000 received from a 3 per cent levied against casinghead and drilling gas, products that formerly were not taxed. Under an opinion of the attorney general the auditor made the levy against production of these products as far back as 1916.

Over $1,000,000 was collected by the auditor during July, August and September from a 2½-cent levy on gasoline. September collections making a new high record, $376,811.35. Collections for August totalled $363,874.05 and for July $329,733.08. It is expected that the gasoline tax will raise over $3,000,000 in a year.

Gross production tax collections during the current quarter probably will be lighter than during the previous quarter, owing to declines in crude oil prices and the fact that in many places 50 per cent of the oil produced last quarter was run into storage and may not be reported upon during this quarter.

MARK C. ROGERS DIES

CHATHAM, Ont., Oct. 11.—Mark C. Rogers, for many years prominent in oil development in southern Alberta, was found dead in his home at Lethbridge, Alberta. Mr. Rogers came to the Canadian West as a young man, settling first in Edmonton. He was president of the Canadian Oil & Refining Co., which early this year drilled the Rogers-Imperial gasser east of Coutts, in the Canadian Sweetgrass Field, reputed to be the largest gasser ever drilled in Canada. This company also recently acquired the Standard Refining Co. plant at Lethbridge.

SUNDAY GASOLINE LEGAL

CHATHAM, Ont., Oct. 11.—Efforts in Calgary, Alberta, to prevent the Sunday sale of gasoline and Sunday repair service for motorists were defeated when Magistrate Sanders dismissed a prosecution brought against the Dodge Motor Sales Co. The magistrate held that the service given came absolutely under the exemptions provided for in the Lord's Day Act.

GASOLINE BUSINESS IS GOOD AT CHICAGO

(Continued from Page 94)

just taking care of old customers and the new ones that will come to the larger and better known sources of supply. The Standard is holding to a 8½ cents tank wagon price for quantities more than 200 gallons. The Roxana and Sinclair have an 8-cent price and most of the independent distributors are holding to the Standard's tank wagon. There was some cutting for business earlier in the season but there is little now.

Fuel Oil Moving Steadily

Fuel oil is still moving steadily, not on large contracts but as the result of numerous small orders. Judging from reports made by different concerns the demand is better from the eastern part of the territory than from the immediate vicinity of this city but the business is steady here. There has been a lot of talk regarding the difficulty of securing fuel oil but the fact seems to be that there is a plenty of it at the market but that those who believed that the prices would decline and sold short are having trouble to cover their need at a price that will net them a profit. In a few cases limited quantities have been bought at 87½ cents but the market is 90 cents and up to 95 cents to the consumer. One large order was taken at 87½ cents to the consumer but this concern is not exacting in its specifications and does go after a price.

The new arrangement of Smackover crude grades is not making it any easier to market that product. There is little coming this way except on contracts and it is not offered with freedom. The price at the wells of 85 cents plus reasonable handling charges and a small profit makes the oil expensive but there are a lot of old contracts that are covered with producers. The Texas Co. is reported here to be taking nothing but its own production.

Gas Oil Plentiful

Gas oil is a little more plentiful and the price is just a shade easier but with a resumption of the demand for fuel oil which may come at any time it would seem that this commodity would hold its own as to price for a while. There is little purchasing ahead of either fuel or gas oil. The larger industries are guiding themselves with caution. But the pressure of an increased demand for commodities due to the improved conditions in the farming districts is beginning to be noticeable in the basic industries, the latest report of the steel companies showing substantial gains in business booked. Plants are now operating at 61 per cent of capacity and with the present increased demand this percentage will gain and more petroleum products will be needed.

Lubricating oils are moving slowly and the market is rather easy. Inquiries for paraffin oil showed that there was a wide divergence between the views of buyers and sellers but the former seemed to have the advantage as some refiners were willing to quote low prices for substantial orders. There was really nothing new in the situation unless it was that the market was easier than a week ago.

Tank Wagon Prices Steady

Tank wagon prices are being maintained much better and there is a gradual return to a condition of normalcy over the territory. The jobbers are having a good business and possibly are beginning to realize that cutting of prices does not increase the consumption of gasoline by a single gallon. There is a general settling down to business and a disposition to push along the lines that do not involve losses of profits. The price cutter is usually a concern with little overhead expenses that can sell as low if not lower than the large dealer. In fact it is beginning to dawn on many oil men that as has been stated in this letter frequently, the smaller concern if managed with skill and a knowledge of merchandising as well as oil makes a larger percentage of profit on its sales than the big organization. The head of a successful jobbing concern in Chicago recently stated that it made a far greater percentage on its sales when it was comparatively small than it did now that it had grown so large.

ROCKY MOUNTAIN AREA

(Continued from Page 40)

tember there was in storage 7,239 bbls. and empty storage of 1,116 bbls.

Colorado Work

In Colorado there were no completions reported over the week end. A heavy wind storm blew down a number of derricks in the Fort Collins and Wellington Fields. One of these was the Quaker Oil Co.'s rotary derrick which went over without any tools in it to hold it down.

Brendel & Ache, drilling on Section 33-8-68, east of the central part of the Fort Collins Dome, have set 15-inch pipe at 860 feet. This well is on the east side of the structure and farther out than any well yet drilled. It is expected to show conclusively the extent of the field when it reaches the Dakota sand. According to some of the older surveys, this location is outside the water line of the Fort Collins structure but later examinations place it in production.

Wyoming Operations

In the Baxter Basin Field in Sweetwater County, Wyoming, the Associated Oil Co. is drilling on the well shut down several months ago with a fishing job. The hole is now at 3,320 feet and a completion is expected at 3,470 feet. The Producers & Refiners Corp. is spudding in a new hole north of the gas well of the same firm. Rock Springs is now using gas from the field for the homes and business houses and the Producers & Refiners find a ready demand for natural gas in place of coal though Rock Springs is the central shipping point for a large coal mining district.

The wildcat drilling southeast of the city line near Casper is down 210 feet and having a little trouble with water in the 20-inch hole. This well is expected to go about 3,000 feet or more for a test of the Wall Creek sands. The capital is being furnished by local people and the well is being drilled by H. V. Meaban, a contractor from the Oklahoma fields.

The wildcat on the Irvine structure south of Douglas, Wyo., is making arrangements to continue work during the winter months. This well is in a locality never tested before and is at 2,340 feet with a good hole.

In the LaBarge and Big Piney district in Lincoln County, north of Kemmerer, the Midwest has shut down the well that was drilling there and it appears likely it will remain in this condition for the winter. A few other holes drilling to shallow depths are also to shut down shortly due to the cold weather coming early.

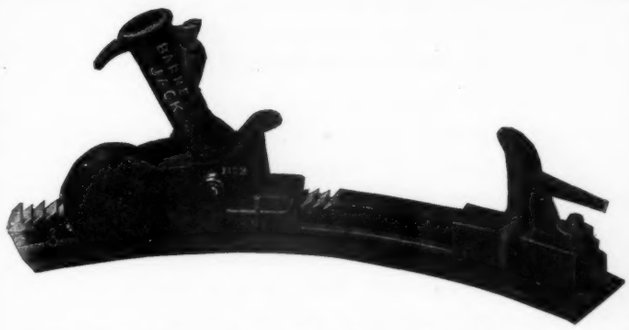
Except for the wells drilling in the Oregon Basin where the Ohio Oil Co. and the Florence Oil Co. are putting two deep tests, the Big Horn Basin country is inactive. This region in 1917 was the most active of any area in the Rocky Mountain region while at present there is hardly any work going on there except in the production of the known fields. Warm Springs Field has not shipped any oil for more than a year and there is little prospect of its doing so.

OKLAHOMA FIELDS

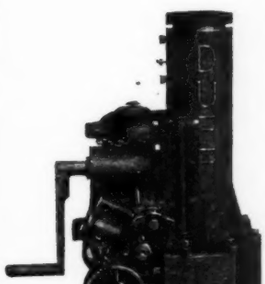
(Continued from Page 38)

85 feet. The Amerada Petroleum Corp.'s No. 9 Lewis, SW cor. NW SW, Section 7-14-7, was not helped by a 40-quart shot. It started making 200 bbls. natural from sand at 4,135-63 feet, and was treated with 40 quarts but later declined to 55 bbls. Same company's No. 10 Lewis, CEL SE NW SW, same section, produced 358 bbls. when shot with 40 quarts. It had made 188 bbls. natural from the sand at 4,112-55 feet. No. 11 Lewis, SE cor. NW SW, same section, was another well not helped by shooting. In fact it declined shortly afterward from 426 bbls. natural to 252 bbls. Sand was reached at 4,095-4,168 feet. The Twin State Oil Co.'s No. 1 Casar, NW

DUFF
Genuine Barrett
JACKS



The Genuine Barrett Oil Well Jacks are made in several sizes and capacities, for wrenching and unwrenching oil well tools. Above is shown the improved No. 2, with wide flanged rack and double-acting ratchet mechanism, most powerful circle jack made.



50- and 75-ton
High Speed Screw Jack

For the Heaviest Lifting 50 and 75 Tons Capacity

The powerful Duff High Speed Ball Bearing Screw Jacks have been adopted by America's leading railroads for raising locomotives. They are the simplest, most dependable, and repair-free jacks that can be used for deep well fishing and emergency lifting.

Capacities from
10 to 50 tons.

Duff Ball Bearing Screw Jacks

Especially suitable for rough outdoor usage, all working parts being of sturdy design, packed in grease, in leakproof case. Will give a lifetime of service, practically without attention or repairs. Loads can be lifted on the head or on the "toe." Made in sizes from 10 tons capacity up to 50 tons.

Ask for Catalog

The Duff Manufacturing Co.
Pittsburgh, Pa.

"Look't that mitt"

"Ain't she a dandy?" inquires "Interstate Joe," displaying a right hand, covered with blood, on which four knuckles had been barked to the bone.

"Why, good gracious, Mr. McCoy, how in the world did that ever happen?" sympathizes the timekeeper.

"That didn't happen a'-tall," drawls Joe, sarcastic like,—"It was caused. Some people think the only thing important about tongs is to know where to get them the cheapest. When such people buy bastard tongs for a heavy job like this, the best thing us boys kin do is to keep our hands in our pockets.

"You see, Dick and me was on a pair of 8". We were on the last half turn – we came down on them tongs with all we had. But they didn't ketch.

"I heard Dick's teeth clatter as his knuckles buried themselves in the soft mud. But my knuckles didn't bury themselves a'tall, although they tried to,--in a big dornick.

"I'll tell the cock-eyed world them cheap, mongrel tongs 'barked up the wrong tree' this time. I'll carry water before I'll handle any other than

TRANSIT RED HEAD TONGS

National Transit Pump & Machine Co.
OIL CITY, PA.

District Offices:

New York Philadelphia Pittsburgh Cleveland Tulsa Houston Denver

cor. SE, Section 7-14-7, was drilling at 3,450 feet.

Papoose Pool

Additional activity in the northeast trend of the Papoose Pool included rigs for the Kingwood Oil Co.'s No. 3 Sand, C NE SE SW, Section 35-10-19, and the Cosden Oil & Gas Co.'s No. 1, C SE NE SW, same section, a north offset.

Across the line in Okfuskee County, the Indian Territory Illuminating Oil Co. was spudding No. 2 Williams, C SE SE SE, Section 34-10-9, and T. B. Slick was spudding his No. 2 Sand, C NW SW SE, Section 35-10 9. Bingman & Smith and others were spudding their No. 1 Sawyer, C SW NW NE, Section 26-10-9.

T. B. Slick was fishing at 440 feet in his No. 2 Alexander, C SE NE NW, Section 2-9-9. The Cosden Oil & Gas Co.'s No. 5 Alexander, C NE SE NW, Section 3-9-9, was making 55 bbls. an hour from sand at 3,289-3,306 feet, with first oil at 3,296 feet.

In southern Seminole County, T. B. Slick and others shut down at 350 feet in their No. 1, C NW SE SE, Section 27-6n-7e.

West of Wewoka

The Dixie Oil Co.'s No. 1, SW cor. SE, Section 25-8-7e, west of the Wewoka area, topped a sand at 3,036 feet and at 3,074 feet swabbed 80 bbls. It was drilled a foot deeper through the sand.

In the west extension of the Wewoka Field, the Magnolia Petroleum Co. had a rig up for No. 2, C SW SE SE, Section 30-8-8, and the Boggs Oil Corp. also had a rig built for No. 8, C SE NE NE, Section 31-8 8. The Producers & Refiners Corp.'s No. 1, C NE SW NE, same section, was good for 125 bbls. daily from sand at 3,178-3,200 feet.

The Magnolia Petroleum Co. was spudding No. 2 Walker, C SW SE SW, Section 29-8-8. Boggs and associates were drilling at 2,560 feet in their No. 6 Willis, C SW SE NE, Section 31-8-8, and at 800 feet in their No. 7 Willis, CEL SE NE, same section. The Magnolia Petroleum Co. was drilling at 1,600 feet in its No. 2 Aldridge, CEL NE SW NW, Section 32-8-8, and at 800 feet in No. 4 B. Tiger, C SW NW SW, same section. This company's No. 1 Frantz, NE cor. NW SW, same section, an old well drilled deeper, produced 417 bbls. of oil, 15 per cent water, from sand at 3,232-36 feet. The Shaffer Oil & Refining Co. was drilling three new wells in the NW NW of Section 32-8-8, Nos. 5, 6 and 7.

The Independent Oil & Gas Co., Sinclair Oil & Gas Co. and Diamond Refining Co. abandoned their No. 1 Foster, C NW SW SE, Section 33-8 8, at 3,376 feet. The Independent Oil & Gas Co.'s No. 3 Foster, C SE SW NW, Section 33-8-8, was dry and abandoned at 3,310 feet.

The Dixie Oil Co. and others' No. 1, C SE SW SE, Section 25-8-7, was plugged back from 3,238 feet to sand at 3,061-75 feet and made 95 bbls.

In the Sho'em Alechem Fie'd, Carter County, the Humble Oil & Refining Co.'s No. 2 Dexter, CSL SE SW SE, Section 28-1s-3w, was swabbing 50 bbls. from sand at 3,348-87 feet. The Magnolia Petroleum Co. was drilling its No. 2 Hurt, C NW SE NE, Section 32-1s-3w, at 1,180 feet.

Hewitt Field

In the Hewitt Field, The Texas Co.'s No. 5 Ward, CEL SE SW SW, Section 21-4s-2w, an old well drilled deeper, was good for 30 bbls. from sand at 2,245-2,310 feet. The Wolverine Oil Co.'s No. 33 Dillard, CSL NE NW SE, Section 22-4s-2w, pumped 25 bbls. from sand at 2,330-50 feet after plugging back to 2,444 feet.

In the Graham Field, Carter County, the Magnolia Petro'eum Co.'s No. 4 Williams, C NE SW NE, Section 23-2s-3w, was good for 75 bbls. from sand at 2,418-24 feet. The Twin State Oil Co.'s No. 1 Williams, C SW SE NW, same section, went to total depth of 2,558 feet and was plugged back to 2,400 feet, making 30 bbls. from sands at 2,146-65 and 2,383-90 feet.

Johnson and others found 11,000,000 feet of gas in their No. 5 McClure, C NW NE NW, Section 27-2s-3w, in ma at 2,447-75 feet.

The Cotton Belt Petroleum Co. had a 150-bbl. well in its No. 7 Sparks, C NE SE SW, Section 30-2s-2w. Sand was topped at 2,560-75 feet and total depth was 10 feet deeper. The Humble Oil & Refining Co.'s No. 2 Barrows, C SW SW NW, Section 32-2s-2w, was estimated at 50 bbls. from sand at 2,675-2,715 feet.

The Magnolia Petroleum Co.'s No. 1, C NW SW NW, Section 23-2s-3w, an old well, produced 420 bbls. from sand at 2,522-34 feet. Same company's No. 4-A, C NW NW NE, Section 27-2s-3w, an old well, was making 500,000 ft of gas at 2,131 feet.

In the Brock Pool, Carter County, the Amerada Petroleum Corp.'s No. 10, NE cor. SW NE, Section 20-5s-1e, was good for 270 bb'ls. the first 24 hours from sand at 1,702-36 feet.

The Amerada Petroleum Corp. had a 150-bbl. well. It was No. 4, SE cor. NW NE, Section 20-5s-1e, and sand was found at 1,762-70 feet.

FUEL OIL STRONGER IN OIL CITY MARKET

OIL CITY, Pa., Oct. 13.—Several products were weaker in the Northwestern Pennsylvania refined market during the past week due in large part to seasonal conditions.

Gasoline is off, both as to demand and price. Many of the refiners and marketers in this section believe this is caused as much by the distributors and jobbers deciding to keep their storage low as by the lightning of the actual consumption, although that, too, is considerably less with the coming of cool nights.

Kerosene has softened considerably during the week. The demand for this product is much lighter as the threshing season is now practically over.

Fuel oil is stronger and the cooler weather is bringing about a bigger demand for it for heating purposes and the steel mills are also using more. The price is a little firmer.

There was not much change in cylinder stocks and neutrals during the week, but if anything they are slightly weaker.

Wax is weaker.

ASKS ARKANSAS CHARTER

SHREVEPORT, La., Oct. 11.—Articles of incorporation were filed with the Secretary of State of Arkansas last week for the "'Standard Oil Co. of Arkansas." The company is capitalized at $375,000 and its incorporators are named as W. W. Hawkins, J. N. Shreve, and E. H. Lee. Local officials of the Standard Oil Co. of Louisiana are of the opinion that the new company is an independent company, in no way associated with the "Standard."

Statement of the Ownership, Management, Etc., of
THE OIL AND GAS JOURNAL
October 1, 1924

(This statement is published in compliance with the Act of August 24, 1912.)

Published weekly (Thursday) at Tulsa, Okla.

Publisher: The Petroleum Publishing Co., Tulsa, Okla.

Editor: James McIntyre, Tulsa, Okla.

Associate Editor: W. T. Anderson, Tulsa, Okla.

Associate Editor: Andrew M. Rowley, Tulsa, Okla.

Stockholders holding 1 per cent or more of total amount of stock: The Patrick C. Boyle Estate, Oil City, Pa.

Known bondholders, mortgagees and other security holders, holding 1 per cent or more of the total amount of bonds, mortgages or other securities: None.

H. J. BRYAN,
Treasurer.

Sworn to and subscribed before me this 13th day of October, 1924.

MARIE H. TURNER,
Notary Public.

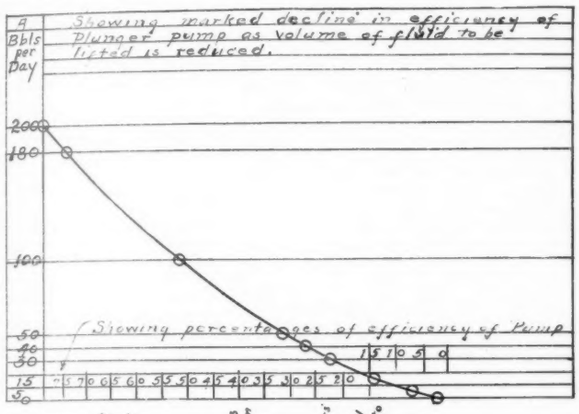
My commission expires October 11, 1926.

DEMONSTRATES OIL LIFTING DEVICE

HOUSTON, Tex., Oct. 13.—J. B. Mayberry, well known as an operator in the Gulf Coast and north Louisiana fields, is demonstrating a device for lifting oil which is attracting attention. The device is the application of the old buckets on a chain used for pumping water wells years ago, applied to lifting oil. The mechanics of the apparatus, however, are new and have been patented by Mr. Mayberry.

The economical lifting of oil in small wells is one of the problems that producers in all the fields of the country have been trying for years to solve. Mr. Mayberry says his method is designed specially for that class of wells. He has installed his apparatus over an old abandoned hole on the Hermann lease of the Invincible Oil Co. in the Humble Pool in the Gulf Coast territory, where it can be observed in actual operation. He is securing approximately 10 bbls. per day from a well that had been abandoned as unprofitable to handle on the jack.

Mr. Mayberry's device consists of steel cups welded onto steel plates, 2⅜ inches long, each cone or cup being 1⅛ inches long and 1½ inches wide. Each cone or cup will hold 1 15/100 cubic inches of fluid, which means each 40 feet of the links and cups carry one gallon of oil. A specially constructed torpedo shaped frame, called an "idler" is suspended on the bottom of the carrier in the well, with a sprocket shaped spindle through which the chain runs. This insures proper turning and takes the lash out of the carrier. It also prevents tangling. No derricks are necessary. A frame 5½ feet high, is placed above the well. It is called the head works on which the over top sprocket is placed, over which the carrier travels, dumping the oil from the cups as they pass over the sprocket. It can be operated with a one or two horsepower gasoline engine or motor, depending on the depth of the well


Showing marked decline in efficiency of Plunger pump as volume of fluid to be lifted is reduced.
Bbls per Day
2000
1800
1000
50
40
30
15
10
Showing percentages of efficiency of Pump
15 10 5 0
9 8 7 6 5 6 0 3 5 5 0 4 5 4 0 3 5 3 0 2 5 2 0

Depth	Theoretical Daily Capacity of Pump	Actual Daily Production	Strokes per min Low	Strokes per min High	Strokes per min Average maximum	Age of Well in Yrs	Ratio of Actual Production to Theoretical Capacity of Pump
900	93.9	5.0			30	6.0	5.2%
700	86.2	15.0			18		17.4 "
1300	131.2	30.0	16	20	19	2.5	19.8 "
1000	135.8	40.0			20	14.0	29.6 "
2000	212.0	100.0	19	22	20	2.6	47.1 "
3000	244.0	180.0	20	26	23	12.0	73.7 "
2500	263.0	200.0	20	30	25	12.0	75.7 "

Above plotted from records of 7 wells reported by Arnold and Griffis in Tech. paper No 20. U.S Bureau of Mines

PRICE EQUALIZATION IN COASTAL MARKET

HOUSTON, Tex., Oct. 13.—The big news in Houston refined circles during the week was the inauguration of what was predicted the beginning of a gas price war but which proved to be but an equalization of prices to all common point Texas territory.

The Gulf Refining Co. led off with a 3-cent cut, from 18 cent filling station and 15-cent tank wagon price to 15 cents filling station and 12 cents tank wagon. In announcing the cut, Gulf Refining Co. said as it had reduced gasoline prices in 22 States it was adding Texas to the list to do away with confusion in the market and to adjust price differences between communities and districts. Following the lead of the Gulf, the other major marketing companies promptly met the cut.

The lubricant market is characterized by every refiner as very strong. The 200 viscosity red oil advanced a half cent, from 10 low and 11 high to 10½ low and 11½ high. Increased demand for this grade is responsible for the fractional increase.

It developed during the week that refiners were trying to buy lubricants from each other to meet their trade requirements, but the attempt was fruitless for practically every refiner was in the same fix, no oil to spare.

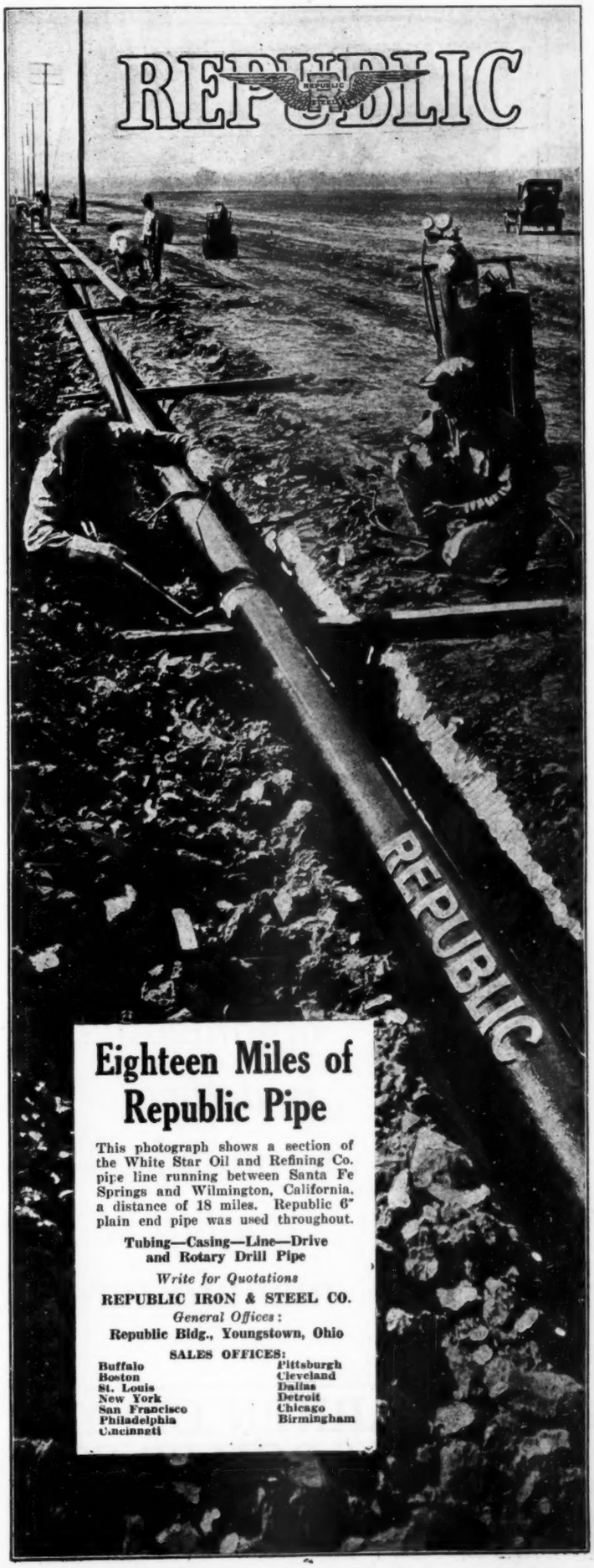
Gas oil took a turn upward, from three-quarters to a full cent, advancing from 3¾ cents low and 4 cents high, to 4 low and 5 cents high. Even with the advance it means but little because gas oil is more scarce than lubricating, most refiners being sold up months ahead.

Fuel oil held steady at from $1.50 to $1.60, although registering a strong demand and with no great stocks in sight.

SHALE GAS DISCOVERY NEAR NEODESHA, KANS.

Discovery of shale gas near Neodesha, in Wilson County, southern Kansas, recently, leads gas producers to hope that eventually shale gas will replace natural gas. The shale gas comes from the tubing a perfect mixture of water and gas. It is received into a standing separator, the gas going out of the top and the water returning to a connection at the bottom of the separator, through a pipe line, thence into the big hole between the drive pipe and the tubing.

Chemical tests show the shale gas contains 98.3 per cent methane and ethane and practically no nitrogen or oxygen, which are noncombustible gases. The lime gas contains, at 60 degrees F. and at 8 pounds pressure 980 to 990 b. t. u's. This content is higher than that of many sand gasses, which fact it pointed out as a basis for its value as a domestic or industrial fuel.



Eighteen Miles of Republic Pipe

This photograph shows a section of the White Star Oil and Refining Co. pipe line running between Santa Fe Springs and Wilmington, California, a distance of 18 miles. Republic 6" plain end pipe was used throughout.

Tubing—Casing—Line—Drive and Rotary Drill Pipe

Write for Quotations

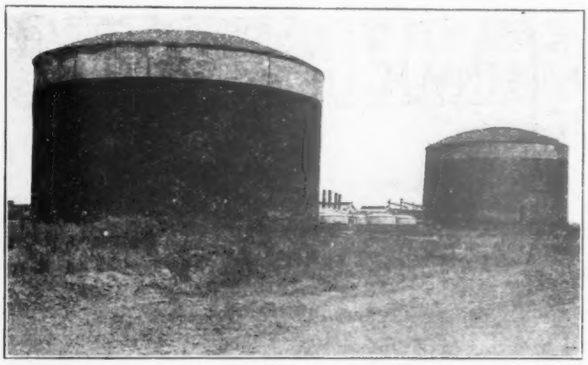
REPUBLIC IRON & STEEL CO.

General Offices:

Republic Bldg., Youngstown, Ohio

SALES OFFICES:

Buffalo, Boston, St. Louis, New York, San Francisco, Philadelphia, Cincinnati, Pittsburgh, Cleveland, Dallas, Detroit, Chicago, Birmingham



10,000-Barrel Tanks Erected for Meridian Petroleum Corp., Okmulgee, Okla.

WARREN CITY TANKS
Any Size - Any Place - Any Purpose
FOR THIRTY YEARS THE SEAL OF SATISFACTION ON TANKS AND REFINERIES

No. 2 of a Series

This is advertisement No. 2 of a series designed to convey this company's service to the oil industry.

To meet your every requirement effectively our entire organization is dedicated to one ideal--- quality of manufacture.

The WARREN CITY TANK & BOILER Co
WARREN, OHIO

TANKER AND LOADING FACILITIES TO SHIP MORE VENZUELAN OIL

By Michael O'Shaughnessy

La Rosa, until recently a sleepy native village about 32 kilometers southeast of Maracaibo City on the eastern shore of the lake, is now a scene of great activity.

As far back as 10 years ago the Venezuelan Oil Concessions, Ltd., did some drilling here. The now famous No. 2 Barroso well was put down 900 feet and abandoned; a shallow dry hole near Cabimbas and the two Santa Barbara failures added discouragement. This was somewhat relieved later by a partial success in the La Junta well. The steel derrick had been left standing over the No. 2 Barroso and eight years later it was decided "to make a last try in the territory" by deepening this hole to 1,500 feet.

At 1,495 feet the well blew in on December 14, 1922, sending a column of oil 300 feet above the derrick, which covered the countryside for several miles around. There is conclusive evidence that this well flowed wild about 1,000,000 bbls. in the nine days before it sanded up. There is no reason to doubt the statement that 500,000 bbls. of this oil was salvaged. Late in August some of the oil was still standing in low places 1 mile from the rig.

More than a year elapsed before an offset well, R-6, was brought in, which was followed by the R-7 to the south in May, and the R-8 to the north and R-9 to the west in August of this year. These wells came in at depths ranging from 1,500 to 1,550 feet and are flowing through the chokes from 1,800 to 5,000 bbls. a day.

In the meantime the British Equatorial, since absorbed by Lago Petroleum, started drilling on the shore its No. 1 at La Rosa village and No. 2 farther south about half way between the two Santa Barbara wells. The No. 1 came in in April this year and gave unmistakable evidence of being a big producer. The Venezuelan Oil Concessions immediately started drilling about 50 meters east its offset No. R-11.

Gulf Oil Co. Development

About this time the Gulf Oil Co. took over the development of all the properties of the Creole Syndicate, including its marine zone concessions just off the shore at La Rosa village and started drilling its No. 1 Superior in 5 feet of water in the lake, about 100 meters from No. 1 Lago and 150 meters from No. R-11 Venezuelan Oil Concessions. These three wells were drilled through valves, the No. 1 Lago and No. R-11 with cable tools and the No. 1 Superior by rotary rig, and came in this year as follows: No. 1 Lago, on April 26 at 1,800 feet; No. R-11 on August 24 at 1,805 feet; and No. 1 Superior, on September 2, at 1,887 feet, all showing about 600 pounds pressure per square inch and flowing through ¾-inch choker at the rate of about 5,000 bbls. each a day, the oil being around 21 degrees Baume gravity.

The lake shore line (running northwest to southeast) at this point describes a wide crescent. La Rosa village lying in the bay about equally distant from the points jutting out into the lake. The country round about is flat and sandy and covered with thick thorny underbrush and small trees. Stately cocoanut palms on the shore add picturesqueness to the landscape.

The Venezuelan Oil Concessions owns the concession on the land for miles north and south of Las Rosa village, from the mouth of the Aurore to the Misoa Rivers, and Lago owns the lake bed concession beyond the one kilometer marine zone strip, around the figure of the lake. This strip is owned by Lago, Gulf, Creole Syndicate and Venezuelan Petroleum in parcels of irregular shape and extent. At La Rosa village the Creole Syndicate leases Michigan and Superior (to the Gulf) are rectangular in shape, and the area between their straight line boundaries and the curvature of the Venezuelan Oil Concessions shore line belongs to Lago. From this circumstance a very interesting situation arises. Lago owns a V-shaped parcel between the Superior and Michigan leases where their boundaries touch, just off the Venezuelan Oil Concessions shore concession at La Rosa village, which accounts for the spirited drilling program of the Venezuelan Oil Concessions, Lago and Gulf immediately at this point, where each of these companies has brought in a big producer. In this area the Nos. 3 and 4 Lago and the Nos. R-12 and R-13 Venezuelan Oil Concessions offsetting them should come in within a month. Gulf (Creole) No. 1 Michigan is drilling and No. 2 Superior is building derrick. Lago has made eight locations in addition to its two wells in production and the four drilling noted above, bringing its drilling program up to 14 wells. Funds have been appropriated to complete this program.

The Gulf drilling program on the Creole Syndicate, Michigan and Superior leases (a little over 900 acres) is equally impressive.

About 50 per cent of the stock of the Venezuelan Oil Concessions, Ltd., is owned by the Royal Dutch group and the other half by British investors, a committee of whom recently concluded a mutually satisfactory rearrangement of the relations of these two companies, one provision of which is that the Royal Dutch is to take a minimum of 4,000,000 bbls. of oil a year from the Venezuelan Oil Concessions "at a fair price." As a result of this settlement the Venezuelan Oil Concessions issued additional stock to its shareholders to net the treasury £1,200,000, of which £1,000,000 has been appropriated for "drilling, wharfage, storage, pipe lines, etc., to the end of 1925," a large proportion of which is to be expended in the La Rosa Fields.

The La Rosa camp and terminal are at La Rosa village and the lake loading rack is about 1 kilometer off shore in 11 feet of water. They are cramped for room here and it is reported that they contemplate building a new terminal with tank farm at Punta Icotea about 5 kilometers north of La Rosa village. The Lago camp, terminal, tank farm and lake loading rack are being completed at Saline, about 2½ kilometers north of its No. 1 well. The Gulf camp, terminal, tank farm and lake loading rack are at Cabinas, 1 kilometer farther north.

Lago is building a 1,000-bbl. topping plant at Salina and will compete with the Caribbean Petroleum (Royal Dutch) and the British Controlled Oilfields in the local gasoline and fuel oil market. Gasoline now sells at about 40 cents for the equivalent of an American gallon.

Transportation of Oil

The Venezuelan Oil Concessions oil is now being shipped by Caribbean Petroleum's lake tankers to that company's 20,000-bbl. refinery at Curacao, Dutch West Indies.

Gulf Oil Co.'s production will be moved by the first of the year in combination steel barge and tug outfits to its terminal on Los Piedros Bay, off the west coast of the Paraguana Peninsula, where a permanent ocean loading terminal is being built. The installation includes a 3,500-foot dock, four 80,000-bbl. steel storage tanks, pump stations, ice plant, water system, machine shops, houses for officers and men, etc. Here the oil will be transshipped to ocean going tankers for transportation to its refineries on the United States Gulf coast.

Lago production is sold under contract to its affiliated company, the Lago Oil & Transport Co., the latter agreeing to take, as offered, up to 25,000 bbls. a day at prices adjusted to the New York harbor bunker oil market. The $2,500,000 preferred stock issue of the Transport company was subscribed through the British-Mexican Co. by English shipping and shipbuilding interests. The common stock of this company is held 5 Oper cent by Lago and 50 per cent by the English group.

The Transport company owns a fur-

minal site on the Paraguana Peninsula. It has contracted for eight lake tankers of 18,000-bbl. carrying capacity, two of which are ready for delivery, and is said to be negotiating for two additional and similar tankers for immediate delivery. Floating storage in the Gulf of Venezuela off the shore of the Paraguana Peninsula is being provided by this company to transship Lago oil from lake tankers to ocean going tankers pending the installation of a permanent ocean lading terminal.

Such is the story of one of the world's latest and greatest oil fields.

Canadian Refiners Have Difficult Job Meeting Competition

CHATHAM, Ont., Oct. 11.—Commenting on the gasoline situation in Canada and the recent decline in price, S. R. Parsons, president of the British American Oil Co. of Toronto, states that owing to a decline in the price of crude oil and particularly the reductions put into effect on October 1 in the price of gasoline by the leading oil companies of the United States, the Canadian refiners have followed their usual practice of bringing the prices in Canada into line so far as possible. When the situation has been further revealed there may be other reductions in Canada.

Mr. Parsons made the following statement: "There has been a disjointed and demoralized condition in the oil refining industry in the United States in 1923 and 1924. This has been brought about through excess production of crude oil. In consequence many refineries have failed; strong companies have passed their dividends, and others are hanging on by picking up 'bootleg' crude, out of which they manufacture what has come to be known as 'distress' gasoline. These conditions have made it extremely difficult for Canadian refiners to compete with products of their own manufacture except at a loss, as the tariff protection is only 1 cent per gallon, or about 4 per cent on wholesale prices. In the face of such abnormal competition and broken down conditions, Canadian refineries have considered their duty to their employes, their shareholders and the public at large, and have carried on as usual. Canadian refiners are doing their utmost to meet these adverse conditions and carry on their businesses at the smallest margin of actual net profit that will enable them to operate. It is surely not in Canadian interests that the refiners of Canada, with their 10,000 to 15,000 employes, their widespreading interests and share in national, municipal and other taxation burdens, should have to do business at a loss.

"Crude oil (out of which is manufactured gasoline, benzine, kerosene, lubricating oils, fuel oil, paraffin wax, petroleum coke, etc.) is sold at the regular 'posted' price from time to time like wheat, and is subject to change according to the law of supply and demand. Unfortunately, Canada does not produce enough crude oil to keep the refineries going one week out of the entire year. Refiners are, therefore, compelled to purchase their supplies in the United States and other countries of the world. Refiners usually make yearly supply contracts, in order to safeguard their interests, at the regular posted price, plus premiums for quality and expense of gathering by pipe lines from the fields, as well as in many cases loading same into tank cars. When there is excess production, caused generally by the opening of new and prolific fields, refiners in the immediate vicinity of such production who are not under contract are able to pick up crude oil at their own prices; hence they are able to undersell others in putting out thir finished products, and this state of things usually ends in price wars and unstable markets as at present.

"Some Canadian refiners are compelled to import more or less finished gasoline to meet the demand for this product, as if they distilled a sufficient quantity at their refineries they would have to manufacture out of the same crude oil, at the same time, excess quantities of other products for which they could not find a market in Canada. In order that such gasoline may be marketed along with their own refinery products, the delivery costs, overhead and other items have to be provided for. In the past it has occurred that the laid down wholesale cost of imported gasoline did not show a margin of ½ cent per gallon under the regular Canadian market price, so that the refiners had to sell same at a very heavy loss considering delivery charges and overhead. This condition has not prevailed recently owing to the deplorable unsettlement already referred to but may come again at any time.

"Price declines, even if comparatively small, of crude oil and products mean enormous losses at refineries and branches where high stocks have to be carried and bought at higher figures. Gasoline is one of the very few products that is selling in Canada at or a little below 1913 prices, according to the Dominion Bureau of Statistics.

"Canadian refiners carry stocks at about 2,000 different points in Canada where they have storage facilities in order to meet the needs of service stations, garages and retail merchants. The great majority of these stations, owing to Canadian climatic conditions, are conducted at considerable actual loss for many months of the year in order to take care of the few winter customers and keep up their necessary organizations; for instance, business in February is only 25 per cent of August's trade.

"Canadian refiners suffer a severe handicap in the matter of taxation. Outside of greatly increased municipal taxation on their refineries and branches throughout the entire Dominion, the Government taxes in forms not in existence prior to 1914 amount to about 10 per cent of their entire capital.

"I may add that, quite contrary to many foolish and unwarranted statements, the records of my company show that last year we made a profit of much less than 1 cent per gallon on all the gasoline that we marketed."

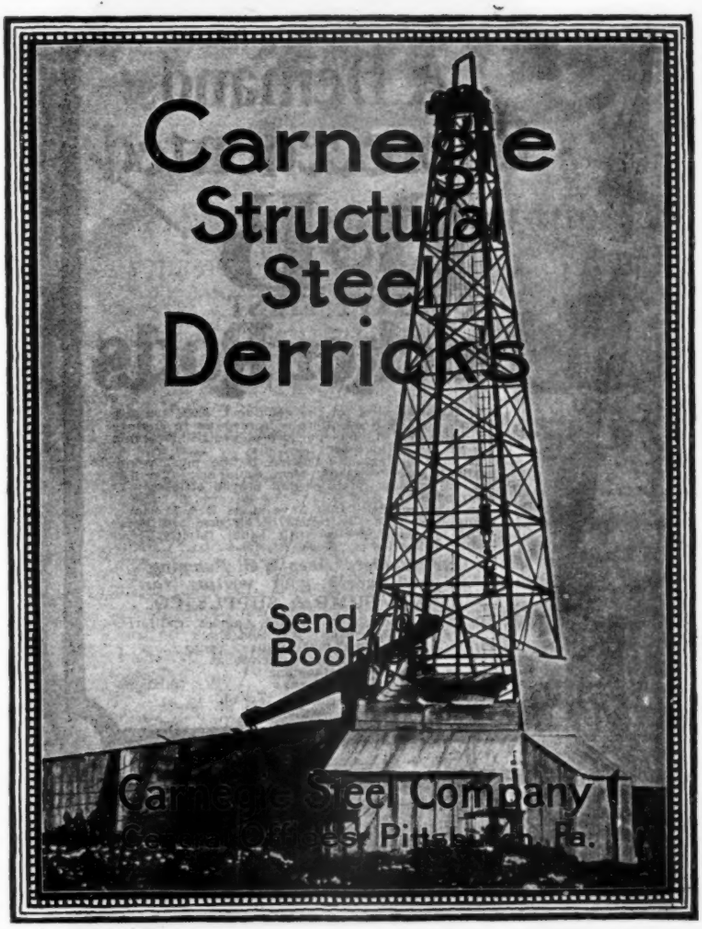
MAGNOLIA CRUDE OIL RUNS IN FOUR STATES

Following are the crude oil runs from each field served by the Magnolia Petroleum Co. in Kansas, Oklahoma, Texas, Arkansas and Louisiana in the month of September.

Oklahoma-Kansas	
Wewoka	402,392.62
Burbank	None
Bristow	190.70
Hewitt	133,736.57
Healdton	214,279.58
Cushing	178,078.32
Yale	92,046.48
Cement	29,011.84
Duncan	68,962.02
Walters-Beaver Creek	10,897.16
Augusta, Kan.	36,918.87
Total Oklahoma and Kansas	1,166,513.16
Texas	
Thrall	2,653.02
Electra and Burkburnett	266,764.79
Henrietta	5,173.76
Heavy Corsicana	10,460.75
Light Corsicana	37,201.22
Comanche	40,087.26
Olden	17,764.48
Stephens	29,616.65
Coleman	224.04
Mirando	34,170.89
Mexia	49,285.73
Luling	325,799.20
Total Texas	819,301.79
Louisiana	
Haynesville (Fortuna)	8,224.54
Bull Bayou (Fortuna)	19,454.15
Total Louisiana	27,678.69
Arkansas	
Union	None
El Dorado light	50,320.59
East El Dorado	7,250.28
Total Arkansas	57,570.87

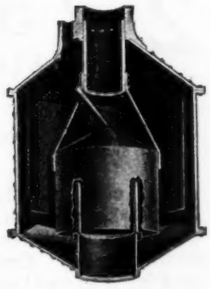
RECORD RUNS FROM SUNBURST

SHELBY, Mont., Oct. 11.—The Illinois Pipe Line Co. ran 161,342 bbls. of oil from the wells in the Kevin-Sunburst Field during the month of September, by far the largest run ever made in this field for any one month, and it makes a total to date of 1,212,678 bbls. run by that company. Of the 161,342 bbls. run, about 45,000 bbls. goes to the International refinery at Sunburst.



Your Roof Tells the Story

Big Repair Bills—Shortened Life Caused by Dirty Condensate



Allows only dry, clean exhaust to escape, enabling you to use water and oil (properly filtered) over and over again.

Take one look at your roof and the story of the Burt Exhaust Head is told. Dirty, oily condensate, dripping from your atmospheric exhausts, is the biggest enemy your roof has.

The oil cuts and rots. The constant dripping means a new roof years before it would otherwise be necessary.

The condition can easily be corrected by installing a

BURT

EXHAUST HEAD

which positively separates only condensate from the steam, allowing only dry, clean exhaust to escape.

When the Burt is installed, you can say good-bye to shower baths of hot, dirty water, objectionable noises and roofing troubles in general. Write for details.

THE BURT MANUFACTURING CO.

929 S. High St., AKRON, OHIO

Largest Manufacturers of Oil Filters in the World

The Canadian Fairbanks-Morse Co., Montreal

A Demand Unprecedented

D&B

'QUALITY FIRST'

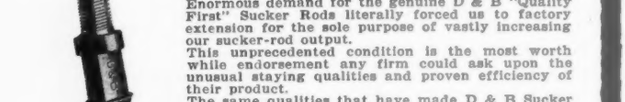
Sucker Rods

Enormous demand for the genuine D & B "Quality First" Sucker Rods literally forced us to factory extension for the sole purpose of vastly increasing our sucker-rod output.
This unprecedented condition is the most worth while endorsement any firm could ask upon the unusual staying qualities and proven efficiency of their product.
The same qualities that have made D & B Sucker Rods FIRST in the minds of oil men will serve YOU in YOUR wells, with equal fidelity. Our motto of service is "More Oil; Less Cost."

Our Booklet, "Deep Well Pumping" is well worth your writing for.

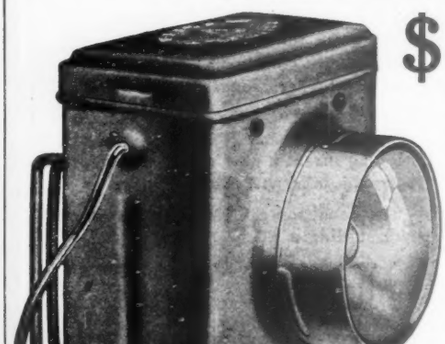
D & B PUMP & SUPPLY CO.

301 West Avenue 26 Los Angeles, California
Branch: Love Aviation Field
P. O. Box 1033, Dallas, Texas
Sales Representatives at
Casper, Wyoming — Houston, Texas — Tulsa, Oklahoma
Wichita Falls, Texas



DELTA

NO. 10 HAND LANTERN



$2.75 COMPLETE LESS BATTERIES

At your supply house or sent direct

Burns continuously by the hour. Runs on two common No. 6 dry cells. One pair of batteries good from five months to one year.

Takes place of dangerous oil, gas and other unsafe lights. Throws powerful light 400 to 500 feet. No danger of fire. Safe anywhere.

Delta Electric Company

Factory and General Offices: 110 Delta Block, Marion, Ind.

Standard Makers of Electric Lanterns, Auto Spotlights, Motorcycle Spotlights, Bicycle Lamps, Radio Head-Phones, Flashlights and Flashlight Batteries

New York City Export Dept. 30 Water St. — Faucette-Huston Co. Chattanooga, Tenn. — San Francisco Sanford Bros. 311 Minna St.

STANDARDIZATION PROGRAM IS PROGRESSING SATISFACTORILY

In his talk on "Progress of the Standardization Program," given at the annual dinner of the Mid Continent Oil & Gas Association at the Hotel Tulsa, Wednesday, October 8, C. A. Young, in charge of this work for the American Petroleum Institute, gave a brief history of the work of standardization in the oil industry and gave comparative figures showing the work accomplished by other industries.

He told about the work finished by the various special committees in charge of the specific programs for the A. P. I. He said in part as follows: "One of the principal subjects under consideration is specifications for oil country tubular material. The committee on this subject, under the chairmanship of J. Edgar Pew, vice president of the Sun Oil Co., has been working for the past three years. The specifications deal with every phase of the manufacture of tubular goods from raw materials to finished product and provide limits and working tolerances for the different operations.

"A table of new casing sizes has been formulated, which is undoubtedly the most complete of its kind. It gives every dimension necessary for a user or manufacturer of pipe, such as the external and internal diameters, weight with and without couplings, range of hydrostatic test pressures, as well as the recommended depth in feet to which the various sizes may be safely set. The new sizes of A. P. I. pipe will be known by their outside diameters. The inside diameters, of course, vary with the different weights per foot. This is a great step forward in the direction of simplification. Heretofore we have always used the nominal size which was neither the outside nor the inside diameter with the exception of certain extra large sizes of pipe that have been known by their outside diameters. The specifications provide for methods of inspection and tests and also for the stenciling of pipe with the official monogram of the American Petroleum Institute. It is intended that the use of this monogram shall be visible evidence that pipe so marked has been manufactured in accordance with theA. P. I. specifications.

Introduction Gradual

"The introduction of the new A. P. I. casing, will of necessity, be gradual. The present sizes and styles of pipe are going to be used for a long time. It does not mean the scrapping of this present material, but an analysis of drilling conditions made by the committee has shown that new sizes were necessary to provide the proper clearances and secure the strength that is needed, especially in deeper holes. These specifications are now in practically complete form and will be presented to the board of directors for final adoption in the near future. When the specifications are finally approved, public announcement will be made and the specifications published for general distribution.

"The specifications on cable drilling tool joints are completed and provide for the adoption of the I and H joint with slight modification. It has been in universal use for many years throughout the entire United States, with the exception of California, and in many parts of the world. Heretofore no means has been provided for the various manufacturers of this joint to keep their gauges to standard, except by checking with one another. These specifications provide for four sets of templates or master gauges; one set to be deposited with the Bureau of Standards in Washington to be used only for rare reference, or in case of dispute, and the other three sets to be deposited with reliable custodians in the Eastern, Mid-Continent and Pacific Coast sections, where any cable tool manufacturer may, for a moderate fee, have his own master gauges checked from time to time to keep them to standard. They also provide practical working tolerances on all the other finished dimensions such as the diameter and length of the collar, size of square, etc. It means that in the future when cable drilling tool joints are manufactured in accordance with the A. P. I. standard, all the dimensions of that particular joint will be the same within the limitations contained in the specifications. These specifications also provide for the use of the A. P. I. monogram.

"The work of this committee was done by a group of principal manufacturers of cable tools in this country under the able chairmanship of the late Grant Hubley, vice president of the Oil Well Supply Co. This specification will be presented to the board of directors at its next meeting, which is planned in the near future.

Rig Iron Committee

"The rig iron committee, under the chairmanship of H. H. Lockhart, of the Parkersburg Rig & Reel Co., has finished the major part of its work. This committee has reduced the number of sizes of rig irons to three—4½ inch, 5-inch and 6-inch—and is setting up standard dimensions and tolerances within these three sizes. Uniform sizes of shafting and key ways for these sizes are under consideration. This will automatically provide for the standardization of the other parts that engage the shafts, such as the bearing boxes and flanges. It has standardized the diameter of the wrist pin where it engages the crank. Different diameters of wrist pins and holes in the cranks have possibly caused more inconvenience than any other single item.

"The much discussed question as to the proper method of designating the size of pulleys, has been settled and this committee recommends that all sheaves of pulleys be measured using the bottom of the groove as the basis. It has agreed on one size of casing line pulley, sand line sheave and crown pulley for all sizes of rig irons with a uniform size of trunnion. This is a decisive step forward in simplification.

"This committee is considering the standardization of other parts of rig irons and eventually it is hoped that a standard A. P. I. rig iron outfit will be adopted. Considerable confusion exists at the present time as to just what a rig iron outfit properly consists of. Extreme care has been taken by this committee to secure the advice and assistance of the wir line and derrick manufacturers as well as other interests that may be affected. Its recommendations on shafting and key ways are selected from the national standards to be adopted by the American Society of Merchanical Engineers. It is hoped that the rig iron report will be completed and ready for adoption by the board of directors at the next annual meeting in December.

Rotary Drilling Equipment

"The committee on standardization of rotary drilling equipment under the chairmanship of Captain J. F. Lucey, has made excellent progress during the current year. Definite recommendations have been made on shafting and key ways. On shafting under 4 inches, the 1/16-inch sizes are eliminated; from 4¼ inches to 6 inches the 1/16 and ⅛-inch sizes are eliminated; and over 6 inches the 1/16, ⅛ and ¼-inch sizes are eliminated. It hopes to provide for definite sizes of key ways for specific sizes of shafting. The selection of sizes was made from the national standards of the American Society of Mechanical Engineers.

"Chain and sprocket teeth are receiving consideration and definite recommendations have been made on these items. The standardization of rotary tool joints has been turned over to this committee, and tentative standard sizes and threads have been agreed upon, subject to further tests to be made in the various fields. As an instance of cooperation, one very well-known company has offered its special thread to the Institute gratis.

"Investigation showed over 28 different sizes of threads on fish-tail bits. These

will be reduced to six. The committee has recommended a style of bit shank that can be made with or without a shoulder and be used in the same drill collar. Investigation showed that in certain districts of the oil country a bit shank without a collar is preferred. The committee has appointed a special subcommittee to consider slush pumps. Drill collars, hose nozzles and clamps, traveling blocks, grief stems, standard taper for spiders in rotaries, are all receiving attention and definite recommendations can be expected in the near future.

"When the recommendations from this committee are adopted and in use, real progress toward simplifiation and economy will have been made. You are all more or less familiar with the present difficulties due to different styles and sizes of threads for the many threaded connections necessary in rotary drilling."

Gasoline for Export In California Much Weaker Than Before

LOS ANGELES, Cal., Oct. 11.—The weakness which was apparent last week in California for gasoline for export is still more marked now. The spread in prices apparently has been reduced from 9 to 10 cents to 9 to 9½ cents per gallon for U. S. Motor gasoline in cargo lots.

A very mixed condition obtains in the local sale of gasoline in California. In the Los Angeles district, a few of the largest marketing companies are still maintaining the so-called standard price of 17 cents per gallon (19 cents per gallon, tax paid). By far the largest number of service stations in this vicinity are, however, selling at the rate of 6 gallons for $1, or 16⅔ per gallon, tax paid. Concessions are even being made in this price and signs are beginning to appear at frequent intervals bearing the legend "6 gallons for 95 cents" and in one instance, "7 gallons for $1." In practically all other parts of California the price of 10 cents per gallon, tax paid, is being used as a base at the large distributing centers. The prices are then increased from ½-cent to 2 cents per gallon in the outlying districts, depending upon the cost of transportation from the main distributing center.

Absorption natural gasoline is still strong at from 10½ cents to 11 cents per gallon, but the refining companies who are the large purchasers of this commodity are insisting on lower end points than were permitted during recent months. End points are now varying from 360 degrees to 390 degrees Fahrenheit.

The fuel oil price of $1.40 per barrel at tidewater continues to be well maintained and quite a bit of the fuel which has been offered lately at prices varying from $1 to $1.20 per barrel in the refining centers is now disappearing. It is being absorbed by the large pipe line companies who are now getting into a position where they can turn this relatively low priced material at a profit without being required to store it. This is due to the fact that the fuel oil sales have apparently increased within the past week and an active market is anticipated for the balance of the winter.

Kerosene, engine distillate, the heavy distillates and lubricants are all moving in fair volume with no price changes either announced or indicated. Lubricating oils, if anything, are somewhat weaker than the other products mentioned. There is some indication of a decrease in spread of prices asked by the various refiners of lubricants. The spread in price is being eliminated by the adoption of the lower prices by those who formerly sold their products at anywhere from ½-cent to 1½ cents higher than certain competitors.

WEST TEXAS LEASE RULING

AUSTIN, Tex., Oct. 9.—A ruling has been made by the attorney general under which more extensive development of University oil lands in West Texas is required under penalty of forfeiture of prospecting rights. The ruling states that when two or more permittees who have taken the maximum individual lease rights combine these permits, agreeing to develop the combined area, they cannot later dissolve the combination and revert to former individual permits. The opinion was given the State Land Office, and was written by Assistant Attorney General Frank M. Hemp.

RECEIPTS OF CALIFORNIA OIL AND TOTAL IMPORTS OF PETROLEUM

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the month of September totaled 3,452,000 bbls., a daily average of 115,067 bbls., compared with 4,099,000 bbls., a daily average of 132,226 bbls. for the month of August.

Receipts at Atlantic and Gulf Coast ports for the week ended October 4 totaled 827,000 bbls., a daily average of 118,143 bbls., against 1,091,000 bbls., a daily average of 155,857 bbls. for the week ended September 27.

At Atlantic Coast Ports—	Total September	Total August	Wk. End. Oct. 4	Wk. End. Sept. 27
Baltimore	290,000	505,000	206,000	.....
Boston	148,000	148,000	.....	72,000
New York	2,606,000	2,898,000	483,000	763,000
Philadelphia	327,000	318,000	58,000	175,000
Others	81,000	*200,000	80,000	81,000
Total	3,452,000	4,069,000	827,000	1,091,000
Daily average	115,067	131,258	118,143	155,857
At Gulf Coast Ports—				
New Orleans and Baton Rouge	.....	30,000	.....	.....
Daily average	.....	968	.....	.....
Total Atlantic and Gulf Coast Ports	3,452,000	4,099,000	827,000	1,091,000
Daily average	115,067	132,226	118,143	155,857

*Revised.

According to figures collected by the American Petroleum Institute, imports of crude and refined oils at the principal ports for the month of September totaled 5,798,000 bbls., a daily average of 193,267 bbls., compared with 6,340,000 bbls., a daily average of 204,516 bbls. for the month of August.

Imports at the principal United States ports for the week ended October 4 totaled 1,111,000 bbls., a daily average of 158,714 bbls., compared with 1,254,000 bbls., a daily average of 179,143 bbls. for the week ended September 27.

At Atlantic Coast Ports—	Total September	Total August	Wk. End. Oct. 4	Wk. End. Sept. 27
Baltimore	437,000	358,000	248,000	.....
Boston	193,000	254,000	.....	66,000
New York	828,000	1,097,000	215,000	218,000
Philadelphia	330,000	438,000	.....	160,000
Others	878,000	917,000	101,000	168,000
Total	2,666,000	3,064,000	564,000	612,000
Daily average	88,867	98,839	80,571	87,429
At Gulf Coast Ports—				
Galveston district	1,090,000	1,641,000	144,000	380,000
New Orleans and Baton Rouge	1,350,000	1,057,000	298,000	146,000
Port Arthur and Sabine district	605,000	513,000	70,000	116,000
Tampa	87,000	65,000	35,000	.....
Total	3,132,000	3,276,000	547,000	642,000
Daily average	104,400	105,677	78,143	91,714
At all U. S. Ports—				
Total	5,798,000	6,340,000	1,111,000	1,254,000
Daily average	193,267	204,516	158,714	179,143

Deming PUMPS THE WORLD'S BEST

Especially Recommended For Pumping Oil

THIS Deming Horizontal Double-Acting Piston Pump Fig. 1696 is specifically designed for pumping oil or other liquids where high pressure is required.

Main frame is heavy box type and includes cross head guide and babbitt lined shaft bearings; **Cylinder** cast iron fitted with spring ring piston; **Crank Shaft,** best O. H. Steel, accurately machined; **Gearing** machine cut from solid and entirely enclosed; **Crosshead** has adjustable shoes to take up wear; Piston rod works through deep stuffing box with bolted gland. **Valves** are bronze balls on **bronze seats,** easily accessible.

"Depend on Deming" to meet your Pumping Needs

Complete Catalog or Individual Bulletin Sent on Request

The nearest of these distributors can give you prompt service and immediate deliveries from stock on their floors.

Cincinnati — Fairbanks, Morse & Co.
Dallas — Briggs-Weaver Machy. Co.
Dallas—The Murray Co.
Houston—F. W. Heitmann Co.
Muskogee—Atlas Supply Co. (and other branches.)
San Antonio—Krueger Machinery Co.; San Antonio Machinery & Supply Co.
Wichita Falls—Petrolia Supply Co.

The Deming Co. (Est. 1880) Salem, Ohio

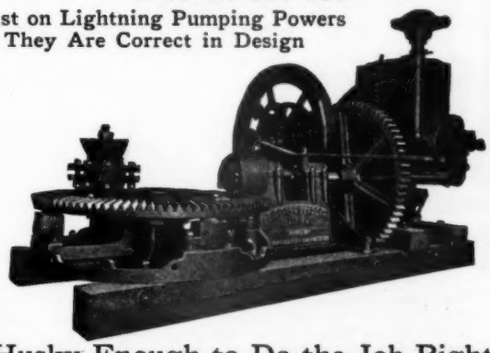
PUMPS

LIGHTNING OIL FIELD SUPPLIES
PUMPING POWERS, JACKS, STUFFING BOXES, ETC.

More Power—Less Vibration

Instant Service

Insist on Lightning Pumping Powers They Are Correct in Design



Husky Enough to Do the Job Right

The reliable eccentric motion does away with jerky lines.
Built in three sizes:

No. 4—Belt Drive, weight 6,500 lbs. For deep wells.
No. 2—12 H. P. engine, weight 4,600 lbs.
No. 1—6 or 8 H. P. engine, weight 3,200 lbs.

Turntable gear is easily removable and having a broad face, coarse teeth and large diameter will stand up to the heaviest loads.
Shackle lines set low to the ground (13 in.) eliminate excessive strain.
Quickly installed.

Oil Field Supply Dept.

KANSAS CITY HAY PRESS COMPANY
Kansas City, Mo.

HOW

do you like us since we met at the Exposition? We hope you enjoyed meeting us as much as we did you. And isn't the new HOUGH EXTENSION LOWER VALVE all we claimed for it? The rest of the Hough line is its equal in quality and performance, and each item is designed and tested with some specific production problem in mind. If you did not have time to inspect the entire line carefully, we should be pleased to receive an inquiry from you. Or go to your dealer and say

'HOUGH'

THE CHARLES N. HOUGH MFG. CO.
Franklin, Penna.

Products that cut down your underground overhead.

Fig. 600
Iron Body
Bronze
Mounted
Simplicity!
LUNKENHEIMER
GATE
Clip VALVES
"America's Best since 1862"
Their simplicity of design, compactedness, high grade material, renewability of all parts, and the facility with which they may be assembled and disassembled for cleaning and repair, insure the maximum durability, serviceability and economy in maintenance, warranting their adoption for most any service,—steam, water, gas, oil, etc.—where the pressure does not exceed 100 pounds.
Procurable in the Iron Body Bronze Mounted Pattern, or for handling liquids which attack bronze alloys, in the All-Iron Pattern, sizes ½ to 6 inches inclusive.
Write for booklet 505 JA
THE LUNKENHEIMER CO.
"QUALITY"
LARGEST MANUFACTURERS OF HIGH GRADE VALVES AND SPECIALTIES IN THE WORLD
NEW YORK CHICAGO CINCINNATI, U.S.A. BOSTON LONDON
EXPORT DEPT. 128-135 LAFAYETTE ST., NEW YORK
6-22-91

REFINERY STATISTICS FOR AUGUST, 1924

Compiled by G. R. Hopkins, Petroleum Economist

During the month of August the Bureau of Mines received reports from 265 refineries, with an aggregate daily crude oil capacity of 2,268,472 bbls., running to stills a daily average of 1,763,165 bbls. of both foreign and domestic crude oil, or 77.7 per cent of their daily operating capacity, an increase of 1.9 per cent over the refinery operations of the previous month and a decrease of 7 per cent from the refinery operations of August, 1923.

GASOLINE

The production of gasoline during the month of August was 755,779,688 gallons, a daily average of 24,379,990 gallons. This represents an increase in daily average production over the previous month of 445,319 gallons or 1.9 per cent, and an increase of 16.5 per cent over the daily average of August, 1923. The domestic demand for August, 1924, was a new record mark of 819,467,892 gallons, an increase of 29,801,302 gallons over the previous month, the figures of which, up to this time had been a record. Stocks on hand at the refineries at the end of the month were 1,311,020,845 gallons, a decrease from the previous month of 159,902,356 gallons. Imports and exports of gasoline both increased during the month. At the August rate of consumption stocks on August 31 represented 50 days supply. This compares with 47 days supply on August 31 a year ago.

KEROSENE

The production of kerosene during the month of August was 204,106,726 gallons, a daily average of 6,584,088 gallons. This represents an increase of 5.1 per cent over the daily average of the previous month. Domestic demand increased 26.5 per cent over the previous month.

GAS AND FUEL OILS

The August production of gas and fuel oils was 1,167,211,159 gallons, a daily average of 37,651,973 gallons, and an increase over the previous month of 5.8 per cent. Stocks on hand at the end of the month were 1,658,670,957 gallons, the increase of 52,719,473 gallons over stocks of the previous month being a reflection of the increase in production.

LUBRICANTS

The production of lubricants during the month was 92,761,392 gallons, a daily average of 2,992,303 gallons, and an increase over the daily average production of the previous month of 6.0 per cent. Stocks on hand and domestic demand showed very little change during the month.

The following material, enclosed for the first time, is intended to satisfy a growing demand for more data on refinery operations and capacities, and to render these reports more comparable from month to month.

JULY, 1924

Division—	No. Plants Reporting	Capacity	Dy. Av. Crude Runs (Bbls.)	Pct. Runs to Cap'y
East Coast	18	446,000	362,236	81.2
Pennsylvania	47	84,355	58,903	69.8
Indiana and Illinois	21	163,400	146,050	89.4
Oklahoma and Kansas	60	313,300	197,788	63.0
Texas	40	385,430	333,729	86.6
Louisiana and Arkansas	16	172,700	135,778	78.6
Colorado and Wyoming	16	121,617	76,189	62.6
California	38	564,170	395,038	70.0
Total United States	†256	†2,251,472	1,705,711	†75.8
*Texas Gulf Coast	10	273,500	255,514	93.4
*Louisiana Gulf Coast	5	132,100	97,803	74.0

*Included above. †Revised.

AUGUST, 1924

East Coast	18	456,000	389,042	85.3
Pennsylvania	47	84,355	57,955	68.3
Indiana and Illinois	21	158,400	139,598	88.1
Oklahoma and Kansas	62	329,400	210,799	64.0
Texas	48	396,430	335,673	84.7
Louisiana and Arkansas	17	173,140	151,093	87.3
Colorado and Wyoming	17	124,617	74,302	59.6
California	35	545,970	404,373	74.1
Total United States	265	2,268,812	1,763,165	77.7
*Texas Gulf Coast	10	273,500	251,162	91.8
*Louisiana Gulf Coast	5	132,100	112,635	85.3

*Included above.

The difference between July and August capacities are explained as follows: East Coast—same plants reported for August, capacity increase of 10,000 bbls.; Pennsylvania—same plants reported, capacity increase 500 bbls.; Indiana and Illinois—1 plant shut down, capacity 8,000, 1 plant resumed reporting, capacity 3,000 bbls.; Oklahoma and Kansas—3 plants shut down, capacity 7,700 bbls., 2 plants resumed operations, capacity 3,000 bbls., 2 plants added to those reporting, capacity 17,500 bbls., 1 plant resumed reporting, capacity 2,000 bbls, capacity increase 800 bbls.; Texas—1 plant resumed operations, capacity 5,000 bbls., 7 plants resumed reporting, capacity 10,300 bbls., 1 plant added to those reporting, capacity 700 bbls., 1 plant did not report, capacity 4,500 bbls., capacity decrease 500 bbls.; Louisiana and Arkansas—1 plant added to those reporting, capacity 440 bbls.; Colorado and Wyoming—1 plant added to those reporting, capacity 3,000 bbls.; California—2 plants shut down, capacity 17,500, 1 plant did not report, capacity 700 bbls.; Texas Gulf Coast—same; Louisiana Gulf Coast—same.

COMPARATIVE ANALYSIS FOR AUGUST, 1924

Gasoline—	Production	*Imports	*Exports	Stocks End of Period	Domestic Demand
August, 1923	648,954,706	10,201,260	78,503,475	1,053,856,221	692,185,610
January, 1924	695,322,500	19,309,197	88,823,007	1,200,287,779	800,426,661
April	754,773,232	7,627,299	116,941,248	1,625,869,129	867,176,036
July	741,974,813	7,553,863	87,797,104	†1,470,923,201	†789,666,580
August	755,779,688	16,124,923	112,339,075	1,311,020,845	819,467,892
Kerosene—					
August, 1923	186,218,819	53,159	30,226,306	243,617,556	131,897,903
January, 1924	217,767,931	20,536	64,762,389	300,265,249	135,956,490
April	203,185,921	56,787	88,863,901	288,964,972	155,423,899
July	194,201,141	65,232	80,884,470	301,157,349	196,547,571
August	204,106,726	6,360	67,661,327	304,136,230	123,473,870
Gas and fuel oils—					
August, 1923	1,010,657,879	11,030,099	127,414,605	1,462,182,129	932,905,034
January, 1924	1,062,892,393	36,471,249	109,908,000	1,471,544,338	1,032,946,015
April	1,116,763,663	41,826,326	120,344,259	1,536,337,206	989,373,401
July	1,102,786,843	53,166,789	154,275,024	‡1,605,951,484	‡1,014,289,653
August	1,167,211,159	62,055,816	156,033,837	1,658,670,957	1,010,513,668
Lubricants—					
August, 1923	87,261,902	6,355	22,530,546	220,419,457	69,259,290
January, 1924	94,534,650	2,897	25,175,405	243,224,109	68,922,193
April	96,966,565	18,617	34,261,964	251,047,444	61,466,890
July	87,489,694	54,289	25,156,414	245,625,869	85,347,073
August	92,761,392	4,641	29,271,086	242,752,893	66,367,924
§Crude oil (bbls. of 42 gals.)—					
August, 1923	66,422,000	7,580,000	1,542,000	x341,370,883	64,037,649
January, 1924	56,455,000	6,303,000	1,528,000	x367,614,781	61,642,642
April	59,433,000	7,297,000	1,548,000	x381,446,152	61,385,180
July	61,083,000	6,502,000	1,408,000	x396,209,931	61,655,068
August	61,684,000	5,862,000	1,242,000	x402,308,790	60,306,143

*From Bureau of Foreign and Domestic Commerce. Exports included shipments to Alaska, Hawaii and Porto Rico.
†Revised figure due to addition of 4,364,262 gallons in Indiana and Illinois division.
‡Revised figure due to addition to 2,308,278 gallons in Oklahoma and Kansas division.
§From United States Geological Survey.
xPipe line, tank farm and refinery stocks.

RUNS TO STILLS AND OUTPUT OF REFINERIES IN THE UNITED STATES, AUGUST, 1924

Oils run to stills (bbls.):	Crude Oils— Dom.	Crude Oils— For.	Unfin. Oils— Dom	Unfin. Oils— For.	Natural Gas Gaso.	Total Oils Run to Stills
East Coast	9,786,124	2,274,176	397,850	158,266	280,055	12,893,471
Pennsylvania	1,797,536	.....	76,036	.....	35,293	1,908,865
Indiana and Illinois	4,336,823	.....	464,824	.....	74,944	4,876,591
Oklahoma and Kansas	6,534,761	.....	383,870	.....	244,047	7,162,678
Texas	9,472,340	932,533	559,232	84,966	228,508	11,236,579

Louisiana and Arkansas	3,865,780	818,109	72,771	51,783	44,774	4,853,217
Colorado and Wyoming	2,303,352	.....	822,544	.....	69,513	3,195,409
California	12,535,584	.....	959,341	.....	182,327	13,677,252
Total United States	50,632,300	4,025,818	3,736,478	242,015	1,159,561	59,796,172
Daily average, 8/24	1,633,300	129,865	120,532	7,807	37,405	1,928,909
Daily average, 8/23	1,500,794	112,604	.....	21,280	13,259	.....
Texas Gulf Coast	6,852,496	933,533	456,420	34,966	215,765	8,493,180
Louisiana Gulf Coast	2,688,678	803,011	49,718	51,783	.....	3,593,190
Output and losses—	Gasoline (gals.)	Kerosene (gals.)	Gas and Fuel Oils (gals.)	Lubricants (gals.)	Wax (lbs.)	
East Coast	143,379,600	48,918,153	257,439,067	28,254,701	15,954,576	
Pennsylvania	29,126,144	11,703,031	15,362,250	14,498,108	5,723,987	
Indiana and Illinois	98,030,148	21,090,727	59,477,736	7,984,957	4,867,358	
Oklahoma and Kansas	129,508,793	30,345,570	110,597,535	7,814,158	3,438,446	
Texas	158,696,360	40,054,698	194,900,834	21,534,679	3,979,926	
Louisiana and Arkansas	36,797,272	20,853,243	107,243,113	2,286,564	2,865,292	
Colorado and Wyoming	52,148,905	8,706,289	40,919,133	1,789,043	2,511,789	
California	108,092,466	22,435,015	381,271,491	8,599,182	.....	
Total United States	755,779,688	204,106,726	1,167,211,159	92,761,392	39,341,374	
Daily average 8/24	24,379,990	6,584,088	37,651,973	2,992,303	1,269,077	
Daily average 8/23	20,934,023	6,007,059	32,601,867	2,814,960	1,213,852	
Texas Gulf Coast	117,646,555	32,659,779	142,333,411	19,717,333	3,823,266	
Louisiana Gulf Coast	27,427,933	18,176,854	75,601,547	2,004,086	2,865,292	
	Coke (tons)	Asphalt (tons)	Other Fin. Prod. (gals.)	Unfinished Prod. (gals.)	Losses (bbls.)	
East Coast	13,902	134,335	4,528,688	5,706,022	401,292	
Pennsylvania	1,894	34	1,644,178	1,358,278	125,565	
Indiana and Illinois	17,897	9,921	3,684,963	1,133,581	142,569	
Oklahoma and Kansas	3,781	.....	2,524,915	4,598,003	331,060	
Texas	12,817	29,136	32,767	25,540,073	501,343	
Louisiana and Arkansas	6,973	43,141	10,186,107	11,277,525	72,782	
Colorado and Wyoming	5,467	4,784	462,264	23,229,381	94,049	
California	.....	45,993	7,320,288	28,467,428	177,075	
Total United States	62,731	267,344	30,434,170	101,310,291	1,845,735	
Daily average 8/24	2,024	8,624	981,747	3,268,074	59,540	
Daily average 8/23	1,758	7,448	724,705	.....	58,021	
Texas Gulf Coast	11,680	29,136	.....	17,590,018	411,014	
Louisiana Gulf Coast	6,753	43,061	6,295,857	7,449,293	45,926	

STOCKS AT REFINERIES IN THE UNITED STATES AUGUST 31, 1924

Oils to be run to stills (bbls.):	Crude Oils—Dom.	Crude Oils—For.	Unfin. Oils—Dom.	Unfin. Oils—For.	Total Oils to Be Run to Stills
East Coast	9,237,992	1,704,249	6,215,708	141,697	17,299,646
Pennsylvania	1,329,719	.....	909,004	.....	2,238,723
Indiana and Illinois	1,456,098	.....	1,834,441	.....	3,290,539
Oklahoma and Kansas	5,058,415	.....	1,630,494	.....	6,688,909
Texas	5,662,456	815,992	5,432,781	.....	11,911,229
Louisiana and Arkansas	5,619,553	1,208,486	1,673,829	191,114	8,692,982
Colorado and Wyoming	1,238,150	.....	1,969,920	.....	3,208,070
California	7,304,680	.....	*11,577,237	.....	18,881,917
Total United States	36,907,063	3,728,727	31,243,414	332,811	72,212,015
Total U. S. 8-31-23	28,898,401	5,372,462	30,365,747	102,249	64,738,859
Texas Gulf Coast	4,323,331	815,992	4,912,763	.....	10,052,086
Louisiana Gulf Coast	5,349,327	1,208,486	1,604,349	191,114	8,353,276
Products—	Gasoline (gals.)	Kerosene (gals.)	Gas and Fuel Oils (gals.)	Lubricants (gals.)	Wax (lbs.)
East Coast	293,052,665	85,815,421	240,112,489	88,295,620	56,143,634
Pennsylvania	29,765,020	10,722,164	22,005,588	29,974,776	17,006,438
Indiana and Illinois	166,649,623	29,925,468	56,358,480	24,309,608	11,628,141
Oklahoma and Kansas	143,746,292	21,255,943	133,232,426	16,010,273	2,401,051
Texas	155,642,123	65,850,887	281,111,784	54,806,824	8,986,440
Louisiana and Arkansas	119,062,322	49,305,030	104,289,402	5,610,653	2,645,394
Colorado and Wyoming	151,091,372	6,350,306	34,772,969	4,362,424	4,408,762
California	252,011,428	31,911,021	786,787,819	16,482,714	.....
Total United States	1,311,020,845	304,136,230	1,658,670,957	242,752,892	103,219,860
Total U. S. 8-31-23	1,053,856,221	243,617,556	1,462,182,129	220,419,457	175,021,042
Texas Gulf Coast	137,907,175	57,758,331	220,046,335	53,790,429	8,893,063
Louisiana Gulf Coast	117,308,779	48,602,924	87,883,720	7,803,077	2,645,394
			Coke (tons)	Asphalt (tons)	Other Fin. Prod. (gals.)
East Coast			13,428	62,362	6,576,888
Pennsylvania			151	1,110	3,304,880
Indiana and Illinois			10,486	5,196	19,381,832
Oklahoma and Kansas			15,087	74	2,154,860
Texas			14,876	15,382	93,178
Louisiana and Arkansas			9,231	14,102	16,838,110
Colorado and Wyoming			4,107	4,909	632,375
California			.....	30,173	182,813
Total United States			67,366	133,308	49,164,936
Total Unite States 8-31-23			20,504	128,034	31,043,226
Texas Gulf Coast			14,876	15,382	.....
Louisiana Gulf Coast			8,139	14,102	2,524,510

*Includes 3,824,029 barrels of tops in storage.

MIDWEST REFINING CO. PLACES BIG ORDERS

CASPER, Wyo., Oct. 11.—The largest order ever given for oil field supplies in the Rocky Mountain region was contracted the past week by the Midwest Refining Co. for supplies for the Salt Creek Field. The order was given to several supply companies and comprised, besides much small stuff for drilling wells, a very large amount of rods and tubing and other pumping equipment, showing that the Midwest is shortly going to place a large number of the wells in the Salt Creek Field on the pump.

This order also included about 400 counter shafts for equipping a well for electrical operation. There was 500,000 feet of ⅝-inch sucker rods, 30 feet long together with 200 polish rods and 400 pony rods of different sizes. The order also called for 200 Axelson pumping outfits and 100 common working barrels, 125 stuffing boxes and 250 D nn tubing catchers. The pipe order called for 1.600 tons of casing and 450.000 feet of 2-inch tubing. The order for the sucker rods was easily the largest ever placed for this material in this region and if the rods and pony rods were laid end to end they would reach more than 100 miles.

Clyde Elwood, of the Axelson, secured the order for the Axelson working barrels that combine a new principle in raising oil from wells and which has proved very successful in all the deep sand fields of this country. The order for the sucker rods also went to the Axelson Machine Co. and this material will be made of upset end rods put out by that firm.

The Midwest Refining Co. will shortly complete the big electric plant the firm is placing on the north end of the field just a mile or two west of the old Shannon development. This big generating plant is destined to supply power to operate all the leases of the Midwest and its subsidiaries in Salt Creek. It will furnish power for the drilling wells and to pump the producers, and two strings of tools are running now in the field by electric power simply to furnish data for the engineers' computations on the output of the new plant.

DEATH OF M. L. VAIL

PITTSBURGH, Pa., Oct. 13.—Mason L. Vail, aged 68 years, died at the Columbia hospital, Wilkinsburg, after a major operation. He was a retired employe of the Eureka Pipe Line Co., having been recently placed on the annuity list. He was born in Branchport, N. Y., September 29, 1856, and after reaching manhood went West. Returning he entered the employ of the National Transit Co., at Oil City in 1890. He was transferred to Pittsburgh in 1893, when he was connected with the Eureka Pipe Line Co.

METERS

FOR MEASURING OIL

OSCILLATING PISTON DESIGN

Entirely different from every other type of oil meter.

ACCURATE SIMPLE SUBSTANTIAL

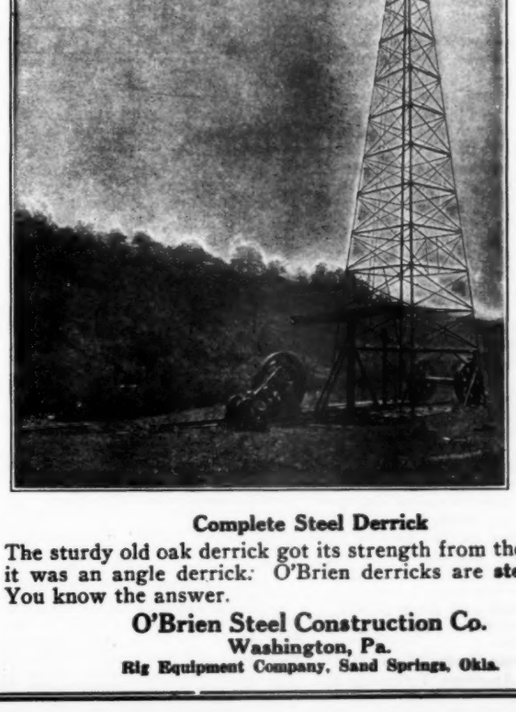
Closest registering and longest wearing meter made.

EMPIRE OIL METERS

Made in All Sizes, ⅝" to 6" Inclusive
Send for fully descriptive circular 110-O

NATIONAL METER COMPANY
299 Broadway, New York
Chicago Boston Cincinnati Atlanta San Francisco Los Angeles

O'Brien Structural Steel Derricks



Features:

Strength

Ease of erection

Low cost

No upkeep, when put up they stay.

The double splice joint, a patented feature.

Cannot wind or twist.

Has never been pulled in.

Complete Steel Derrick

The sturdy old oak derrick got its strength from the fact that it was an angle derrick. O'Brien derricks are **steel** angles. You know the answer.

O'Brien Steel Construction Co.
Washington, Pa.
Rig Equipment Company, Sand Springs, Okla.

Petroleum Securities Reactionary

Twenty Representative Stocks Reach New Low on October 6, Attributable to Reductions in Gasoline Prices and Oil in Storage

By N. O. Fanning

NEW YORK, October 11.—Oil securities were reactionary during the past week. The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange reached a new low for the year of 46.20 on October 6. The previous low was 46.70 on September 29, while the lowest prior to that was 46.77 on April 22.

The average reached a high point of 57.46 on February 5, the present low constituting a drop of 11.26 points, or 19 per cent. The low point for the average for 1923 was 41.43 which occurred on September 18, or just about a year ago.

This continued weakness in oil securities is attributable to the sharp reduction in gasoline prices and the prospect that oil in storage will not be drawn upon to any great extent for some months. Some comfort can be found in the downward tendency of crude oil production, but this has not yet gone far enough to constitute a convincing argument on the side of optimism from the viewpoint of traders.

Present conditions in the oil industry are somewhat similar to those existing a year ago. Consumption of oil is larger, but the amount of surplus oil on hand is relatively greater. Current crude oil production of the country average about 150 000 bbls. daily below this time last year, which gives a favorable comparison.

Fluctuations since April

Oil stock have shown little fluctuation as a group since the middle of April. This is shown by The Oil and Gas Journal weekly averages, which are as follows:

October 6	46.20	July 7	48.28
September 29	46.70	June 30	47.69
September 22	47.02	June 23	46.92
September 15	47.41	June 17	47.94
September 8	47.89	June 10	47.63
August 30	47.59	June 3	48.88
August 25	47.59	May 27	49.01
August 18	47.86	May 20	48.25
August 11	47.48	May 13	48.24
August 4	49.71	May 6	49.59
July 28	47.86	April 29	49.56
July 21	47.28	April 22	46.77
July 14	46.96		

For 25 consecutive weeks, as shown by the table, the average has fluctuated within a range of 3.51 points. This is the first time in more than two years, since the average was first compiled, that the average has shown such a narrow range in so long a period. It is the more remarkable inasmuch as the stock markets as a whole have fluctuated rather widely, and during the 25 weeks have registered large advances.

In view of such circumstances, it is reasonable to expect that oil stocks will soon break away from current levels, but in which direction they are likely to go depends on production and consumption during the coming weeks.

Vacuum Oil Firm

Oil stocks which were firm in contrast with the general list included Vacuum Oil, which held above 70, compared with a low for the year of 56½. The majority of oil stocks are selling near their lows of this year. Shell Union common was also firm and rather active around 17.

Sinclair Issues Soft

Sinclair Consolidated common was active around 15½, and sold as low as 15¼, compared with a low for the year of 15. The preferred stock dropped to 80 but was not active. Sinclair Consolidated 6½ per cent bonds sold down to 83, while the 7 per cent bonds sold down to 88⅛, later recovering slightly. Both classes of bonds were active.

Pan American Issues Firm

Stocks of Pan American Petroleum & Transport Corp. were firm and active. Mexican Petroleum Co., a subsidiary, for six months ended June 30 1924, reports consolidated net profit of $1,911,353 after interest, depreciation, depletion, federal taxes, etc., equivalent after preferred dividends to $3.13 a share earned on $45,730,000 outstanding common stock. After payment of preferred and common dividends deficit was $1,312,297.

Consolidated income account of Mexican Petroleum Co., Ltd., of Delaware and owned companies, for six months ended June 30, 1924, follows:

	Six months
Profit from operation	$ 4,860,369
Interest and amortization	236,472
Depreciation and depletion	2,587,544
Federal taxes	125,000
Net profit	$ 1,911,353
Preferred dividends	480,000
Common dividends	2,743,650
Deficit	$ 1,312,297
Previous surplus	46,657,968
Profit and loss surplus, June 30, 1924	$45,345,671

Consolidated balance sheet of Mexican Petroleum Co., Ltd. of Delaware and owned companies, as of June 30, 1924, compares as follows:

Assets	June 30,'24	Dec. 31,'24
Property account	$ 73,478,347	$ 73,899,031
Investments	2,569,307	2,569,307
Accounts with affiliated companies	5,894,305	10,246,612
Crude and fuel oil & refined products	14,111,244	13,669,169
Material and supplies	5,027,638	4,263,516
Accounts receivable	6,556,625	6,735,859
Cash	4,817,816	3,802,712
Deposits and loan to Mex. Government	3,211,328	5,832,173
Deferred charges	1,296,056	1,163,364
Total	$116,962,665	$122,222,219

Liabilities		
Preferred stock	$ 12,000,000	12,000,000
Common stock	45,730,000	45,730,000
Mexican Petroleum of California stock	51,260	51,260
Bonded debt	8,515,500	8,597,500
Accounts payable	2,456,085	2,668,731
Notes payable	.....	2,500,000
Dividends payable	1,611,828	2,009,000
Federal taxes and contingencies	1,252,321	1,868,733
Surplus	45,345,671	44,647,907
Total	$116,962,665	$122,222,219

*After depreciation.

Union Oil of California

Union Oil Co. of California reports for nine months ended September 30, 1924, net profit of approximately $7,000,000 after interest, depreciation, depletion, federal taxes, etc., ejuivalent to $9.70 a share earned on $92,791,800 stock, compared with $7,200 000 or $8 a share on $90 000 000 stock in same period of 1923.

Income account for nine months ended September 30, 1924, compares as follows:

	1924	1923	1922
*Profit	$17,500,000	$17,000,000	$17,000,000
Depreciation and depletion	5,200,000	4,650,000	3,850,000
Cost new drilling, etc.	3,300,000	5,150,000	2,500,000
Net profit	$ 9,000,000	$ 7,200,000	$ 9,250,000

*After federal taxes, interest, etc.

Production of crude oil by Union Oil Co. of California and controlled companies aggregated 11,200.000 bbls. in the first nine months of this year, decrease of 2,100,000 bbls. from the same period of 1923. The company's own production is now 42,000 bbls. daily, with 140 wells having potential production of 12,000 bbls. daily shut in. Forty-four new wells were brought in during the nine months and eight wells deepened.

Sales were approximately $50,700,000 or $4,400,000 less than in the nine months last year due to smaller shipments of crude to the Atlantic seaboard. Capital expenditures approximate $8 800,000, consisting principally of the cost of leased territory, drilling and expenditures for extension of marketing facilities. Current assets total $47,000,000 including $163,320 in unpaid stock subscriptions, and show an increase of $4,750,000 since December 31, 1923. They are in the ratio of six to one to current liabilities, which approximate $8,000,000, increasing $700,000 since the end of last year.

During the past nine months, mortgage debt in the hands of the public has been decreased $4,239,969.

Subscriptions already paid on offering of $4,500 000 stock made last January amount to $4,336.680, leaving unpaid balance of $163,320 payable on November 10. Definite date for surrender of $100 par share certificate for the new $25 par value certificate has not yet been determined.

Transcontinental Oil stock was active and dropped to 3⅞, against a low for the year of 3¾. Among other low-priced oil issues, Superior Oil was firm around 4⅞, Middle States Oil dropped to 1⅛, while stock of the Creole Syndicate was firm around 8½.

Pacific Oil

At the annual meeting of the Pacific Oil Co. at Wilmington, Del., Charles A. Peabody, Samuel Rea and Paul Shoup were reelected directors for three years.

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

No.	Stock—	Par	Dividend Rate	Clos. Quotations Oct. 11	Oct. 6	1924 High	1924 Low	1923 High	1923 Low
1.	American Republics	...	..	*35	*36	43	25	...	...
2.	Associated Oil	25	6	*28	*27⅜	34⅝	27⅝	29¼	29⅛
3.	Atlantic Ref. com.	100	..	*84	84	140½	78⅛	160	98⅛
4.	Barnsdall "A"	25	..	17⅛	17⅛	21⅝	14	35	9⅞
5.	California Pet. com.	25	7	21⅝	21⅞	29	21⅝	28⅛	17⅛
6.	Cosden & Co. com.	...	..	23	23½	40¼	23⅛	62¼	22⅝
7.	General Am. Tank.	...	†3	*45	45½	49¼	35½	71⅝	40
8.	General Asphalt	100	..	40	41⅛	49	31⅝	64	23
9.	General Petroleum	25	8	39¾	40⅜	45	38⅝	...	...
10.	Houston Oil	100	..	67⅝	69	82½	61	78	40¾
11.	Independent Oil & Gas	10	..	6⅝	6½	9¼	5⅝	11¼	3⅝
12.	Indian Refining	10	..	*5¼	5¼	7	3⅝	8½	4
13.	Invincible Oil	50	..	12½	12⅝	15⅞	11⅝	19¼	7⅛
14.	Maracaibo	...	..	26⅛	26	37⅛	25⅝	28¼	16
15.	Marland	...	..	31⅞	33	42	29	59⅝	18½
16.	Mexican Seaboard	...	..	22⅝	22⅝	25⅜	14⅛	19⅜	5⅜
17.	Middle States Oil	10	..	1⅛	*1	6⅜	1	12¼	3½
18.	National Supply	50	6	55	56½	72½	55¼	68	54
19.	Pacific Oil	50	†2	46⅝	47	58¼	45	52½	31½
20.	Pan-American, com.	20	16	51⅝	52½	61¼	44¼	93½	53
21.	Panhandle P. & R.	...	..	*1½	*2	4½	1⅝	6¼	1¼
22.	Phillips Petroleum	...	†2	29⅝	30½	42¼	28⅛	69⅝	19¾
23.	Producers & Refiners	50	..	23⅜	25⅛	43½	22⅜	58¼	17⅜
24.	Pure Oil, com.	25	6	22¼	22½	26⅝	20	32	16¼
25.	Royal Dutch, N. Y., sh.	13.40	2.62	40⅝	40⅞	59½	41½	56½	40½
26.	Shell Transport	10	x92⅛	*35	*35	41½	33	41¼	29⅛
27.	Shell Union, com.	...	†1	17	16⅞	20¼	15⅜	19¼	12⅝
28.	Simms Petroleum	10	..	14	14½	14⅞	10⅜	16⅝	6⅛
29.	Sinclair Cons. com	...	..	15¼	15⅛	27⅛	15	39⅝	16
30.	Skelly Oil	25	..	17⅛	17⅛	29	17⅛	35	12⅛
31.	Standard of California	25	8	59¾	60⅝	66½	56½	64½	47¼
32.	Standard Oil of N. J.	25	4	34⅝	35½	42¼	33	44¼	30⅝
33.	Standard of N. J., pfd.	100	7	117⅜	*117⅝	118⅝	115⅜	118¼	114⅝
34.	Superior Oil	...	...	4⅝	4⅞	8¼	2⅝	8⅝	2
35.	The Texas Co.	25	12	39¾	40	45⅝	37⅝	52⅞	34⅝
36.	Texas Pac. Coal & Oil	10	..	5⅛	5⅛	10¾	5¼	24⅝	5½
37.	Tide Water Oil	100	4	*113	*120	151	118¼	144	94
38.	Transcontinental	...	..	4	4⅛	5¼	3⅝	14½	1¼
39.	Union Tank com.	100	5	120¼	121	132⅞	94	114	106
40.	White Eagle Oil & Ref.	..	2¼	24	23⅜	29⅜	23¼	30⅝	20¼
	Standard Oil Stocks								
41.	Anglo-American Oil	£1	25	14⅞	15	18	14⅜	19¾	13⅛
42.	Borne Scrymser	100	12	*205	*205	264	160	153	110
43.	Buckeye Pipe Line	50	14	*55	56½	85½	51	94	57½
44.	Cherebrough Mfg., com.	25	14	*48	*48	43⅜	29¼	340	205
45.	Continental Oil	25	8	*42	*42	54⅞	42½	60	33½
46.	Crescent Pipe Line	25	...	*11	*11¼	20	11¼	25	15
47.	Cumberland P. L.	100	10	135	*136	148	109	117	80
48.	Eureka Pipe Line	100	8	*76	*75	105	74	117¼	87
49.	Galena Signal, com.	100	4	*52	52½	69⅝	55¼	78	55
50.	Humble Oil & Ref.	25	4 8	*35	*36	43⅜	36	41	28¼
51.	Illinois Pipe Line	100	12	121½	*125	161	123	171	115
52.	Imperial Oil, Ltd.	25	12	100¼	101½	119	99	123	92
53.	Indiana Pipe Line	50	8	*70	70	100	66	103	81
54.	International Pet. Co.	100	x50	18½	19	22¼	16⅜	24⅜	13¼
55.	Magnolia Pet. Co.	100	4.5	128	*129	160	124	166	123
56.	National Transit	12.50	16	*21	*21⅜	25⅞	21¼	29	19⅛
57.	New York Transit	100	10	56½	*60¼	97	54½	138	70
58.	Northern Pipe Line	100	6	*75	*75	107½	73	111	96
59.	Ohio Oil Co.	25	8	59¼	60	79½	58	85¾	48¾
60.	Penn-Mex. Fuel	25	...	*32	32	45⅝	32⅛	45	10½
61.	Prairie Oil & Gas	100	8	195	206	269	194½	272	152
62.	Prairie Pipe Line	100	8	102	102	111	100	117	93
63.	Solar Refining Co.	100	15	*180	*180	225	170	212	161
64.	Southern Pipe Line	100	16	81	83⅛	100	86	116	87
65.	South Penn Oil	100	..	*129	*132	176	117	196	100
66.	South West Pa. Line	100	8	*71	*70	89	76½	89	66
67.	Standard of Indiana	25	10	55¼	55⅝	58⅜	54⅛	69⅞	49⅛
68.	Standard of Kansas	25	..	*32	*32⅜	50½	32½	56¼	36½
69.	Standard of Kentucky	25	16	*114	115½	120	101	109½	76
70.	Standard of Nebraska	100	20	230½	*233	266½	198	280	186
71.	Standard of New York	25	5.6	38¾	39	45	37⅝	49¾	35½
72.	Standard of Ohio, com.	100	10	302	315	336	277	320	270
73.	Swan & Finch, com.	100	..	*40	*40	81	34	38	21⅛
74.	Vacuum Oil	25	12	70	70⅝	72¼	56½	55½	40
75.	Washington Oil	10	10	*29½	*30	29	25	28	20¼
	Miscellaneous Stocks								
76.	Cities Service, bks. sh.	...	†21	14⅛	*15	16	13¼	18⅛	12¾
77.	Gulf Oil Corp. of Pa.	25	6	*59	*58⅝	65	56⅝	68¼	45⅝
78.	Mutual Oil	5	10	10⅝	10⅞	14	9⅝	...	...

*Bid, no sales. †In dollars. ‡The figures in this column are kept up to date as far as possible, but are not guaranteed. xCents per share.

The Oil and Gas Journal's weekly average price of 20 representatie petroleum stocks listed on the New York Stock Exchange was as follows:

Oct. 11	46.34	Sept. 8	47.89	Aug. 4	49.71	
Oct. 6	46.20	Aug. 30	47.59	July 28	47.86	
Sept. 29	46.70	Aug. 25	47.01	July 21	48.28	
Sept. 22	47.02	Aug. 18	47.86	July 14	46.96	
Sept. 15	47.41	Aug. 11	47.48	July 7	48.28	

MEXICO GIVES OIL GRANTS

NEW YORK, Oct. 11.—The Mexican Department of Industry and Commerce has granted an important oil concession to the Sonora Oil Co. for the exploitation of three zones in the northern and southern districts of Lower California and the Altar district of Sonora.

Resolution Signed by 92 Exhibitors

Supply Men Affix Signatures to Agreement Reached at Meeting Calling For Exposition Every Three Years

Announcement has been made that 92 firms who exhibited at the International Petroleum Exposition in Tulsa during the 10 days from October 2 to October 11 have signed the resolution adopted at the meeting of supply men held in Tulsa on October 7. The resolution adopted at that meeting and the firms signing it follow:

"A meeting held in the City of Tulsa, Okla., on the 7th day of October, 1924, of representatives of the oil and gas well supply companies having exhibits at the 1924 Petroleum Exposition.

"Meeting called to order by John A Geismar, who was chosen chairman, and Walter Gray, who was chosen secretary.

"The chairman brought before the meeting for its consideration the question of frequency with which petroleum expositions are to be held in the future, stating that he had learned that plans were now being made for a similar exposition to be held in 1925. He stated he would like to have an expression from the representatives of the supply companies present, —whether they favored a yearly exposition or one less frequently. During the discussion that followed, the consensus of opinion expressed was that the 1924 Exposition had been remarkably successful, due largely to the fact that many improvements in machinery and supplies of all kinds were upon exhibition; that more than a year's time would be necessary in bringing out other substantial and interesting improvements.

"WHEREUPON, the following resolution was unanimously adopted:

"RESOLVED, that we, the representatives of oil and gas well supply companies and manufacturers of oil field equipment, having exhibits at the 1924 Petroleum Exposition, are unanimous in the belief that Tulsa, Okla., is the logical point for an exposition of this kind and that we have agreed not to participate in a similar exposition at any other point.

"WE ARE FURTHER AGREED that an exposition of this nature should not be held oftener than once in three years, and that the next Exposition should be held in the City of Tulsa, Okla., in the year 1927.

"WE FURTHER SUGGEST that this association be given five (5) memberships on the governing body of said Exposition—such memberships to be selected by this association.

"BE IT FURTHER RESOLVED that a copy of these minutes be signed by representatives of all members of this association and that the secretary be instructed to send a copy thereof to the secretary of the International Petroleum Congress with the request that he present them at the first meeting of he board of directors of the Congress."

The concerns signing the above resolution, follow:

Acme Fishing Tool Co., J. A. Williamson.
Ajax Iron Works, C. F. Bliss, president.
American Cable Co., W. G. Essinger.
American Radiator Co., G. I. Morris.
Arbon, Paul & Co., L. M. McLeod.
Armstrong Brothers Tool Co., D. F. Wams.
Atlas Supply Co., J. M. McDonald, president.
Baker Casing Shoe Co., T. Sutter, Sec.
Baldwin Chain & Manufacturing Co., W. A. Rochenfield, general manager.
Beaumont Iron Works Co., L. J. Black, president.
Becker Specialty Co., J. F. Becker.
Bessemer Gas Engine Co., The, H. C. Pollack.
Black, Sivalls & Bryson, J. R. Sivalls.
Boykin Machine & Supply Co., W. J. Childs.
Bradford Motor Works, M. F. Brennen.
Bridgeport Machine Co., By I. C. Lawless.
Broderick Co., The, J. H. Broderick.
C. & G. Cooper Co., By F. H. Thomas, vice president.
Chicago Bridge & Iron Works, H. B. Murphey.
Chain Belt Co., A. P. Abett.
Clark Brothers Co., C. P. Clark, vice president.
Columbian Rope Co., S. W. Metcalf, assistant treasurer.
Continental Supply Co., William K. Hughes, vice president.
Crane Co., M. E. Bleuler.
Crucible Steel Co. of America., J. McCoult, vice president.
Cunningham Co., Earl W. Miller, sales manager.
Dresser, S. R., Manufacturing Co., By Merrill M. Davis.
D. & B. Pump & Supply Co., J. O. Clutter.
Dunn Manufacturing Co., J. S. Mellon.
Fairbanks-Morse & Co., St. Louis, H. J. Renken.
Fenwick Reddaway Manufacturing Co., By J. A. Fenwick.
C. C. Fetty & Co., By R. M. Atmore.
Foamite Childs Corp., C. T. Smith.
Franklin Valveless Engine Co., By E. I. P. Ziegler.
Geiser & Bogue Manufacturing Co., John E. Geiser.
Gould Manufacturing Co., E. S. Jenison, sales manager.
Guiberson Corporation, R. W. Hazeltine.
Heeter, C. M., Sons & Co., C. M. Heeter, president.
Highland Body Manufacturing Co., Cincinnati, Ohio, Samuel Froome.
Hough, Charles N., The, Manufacturing Co., C. J. Thompson, general manager.
Hoyt Metal Co., St. Louis, Mo., By George S. Owen.
Hughes Tool Co., W. C. Morgan.
International Derrick & Equipment Co., F. W. Mohls.
International Supply Co., J. H. Moran, sales manager.
Jarecki Manufacturing Co., W. B. Gray.
Jensen Brothers Manufacturing Co., William G. Jensen.
Jones Co., S. M., A. L. Meeks.
Johns-Manville, Co., Inc., J. S. Corroll.
Key Boiler Equipment Co.
Landis Machine Co., Waynesboro, Pa., C. N. Kirkpatrick, sales manager.
Larkin Packer Co., P. V. McGivern.
Lehmann Machine Co., St. Louis Mo.; P. Lehmann, chairman.
Leschen, A. & Sons Co., By W. C. Herring, per Newell.
Lucey Manufacturing Corp., T. I. Ward, vice president.
Lunkenheimer Co., The, Joseph Waldeck.
Magneto Ignition Corp., A. R. Wohlauf.
Marion Machine, Foundry & Supply Co., Cecil C. Chamberlin.
Merco Nordstrom Valve Co., H. R. MacGreger.
Moon Manufacturing Co., F. W. Hutchinson.
Moore, Lee C. & Co., Inc., C. R. Krause.
Morrison Brothers, Dubuque, Iowa; J. C. Walker.
Murray Tool & Supply Co., J. M. M.
Muskogee Tool Co., C. J. Dunigan.
National Supply Co., The, J. A. Geismar, vice president and general manager.
Norris Brothers, Inc., D. B. Norris, Sec.
Northern Fire Apparatus Co., J. M. Shearer, sales manager.
Novo Engine Co., L. H. Hitchcock.
O. C. S. Manufacturing Co., William K. Hughes.
Ohio Injector Co., L. L. Waite.
Oil Well Supply Co., E. J. Brown, vice president.
Powell Co., William, Robert D. Allen, sales manager.
Progressive Brass Manufacturing Co., E. J. Thompson, president.
Pyle National Co., The, C. T. Tewkesbury.
Reed Roller Bit Co., C. E. Reed, vice president and general manager.
Refinery Supply Co., The, W. A. Schluter, president.
Robinson Packer Co., W. G. Long, president.
Roebling's, John A., Sons Co., R. R. Newell.
Ryerson & Co., Joseph T., Inc., T. J. B. Fisher.
Skinner Co., M. B. Skinner, president.
Smith, A. O., Corp., C. C. Joys, Jr., sales manager.
Spang & Co., G. A. Spang, president.
Sterling Steel Co., C. L. Harrell.
Superior Gas Engine Co., The, T. P. Shouvlin.
Tallahue Manufacturing Co., C. J., H. D. Cooke, general sales manager.
Toledo Pipe Threading Machine Co., C. A. Popp, sales manager.
Westcott & Greis, J. H. Satterwhite, manager.
Wheaton, A. W. Brass Works, By W. R. Wheaton.
Wheeling Steel Corp., A. J. Fitzgibbon.
Wico Electric Co., E. L. Staughton, vice president.
Wilson Oil Tools Corp., W. W. Wilson, vice president.
W. K. M. Co., Fred McManus.

PUBLICITY PROGRAM IS POSTPONED UNTIL FULL INSTITUTE MEETING

By L. M. Fanning

The oil industry has been investigated up and down by Governmental agencies periodically for many years. During the last year or so it has had not only national investigations by a Congressional committee and by Federal departments, but innumerable State and local inquiries. In some States legal action has been taken against certain oil companies. An interesting angle on some of the larger investigations is that frequently by the time the study of the condition complained of has been completed and a report rendered, the economic situation respecting oil has completely changed, in some cases nullifying the findings of the investigating body and in any event making them somewhat stale. However, probably by about that time the investigating agencies think it necessary to start work in going into the causes of the new conditions, so that taking it all in all the industry has little respite from investigation. The petroleum industry in consideration of the growth of the automobile and hence the growth of the public's interest in gasoline, may expect investigations, whether honestly impelled or politically inspired, of increasing intensity and even more frequency. There is little doubt that there is a strong tendency on the part of Government and State officials to regard the oil industry with respect to its gasoline business as a public utility, and to attempt to impose utility regulations upon it.

Publicity Delayed

With this situation in mind the necessity for the industry presenting the facts concerning it to the public is increasingly apparent. A comprehensive plan for public education being worked out by a central committee comprised of representatives of all the trade associations and of the board of directors of the American Petroleum Institute has been in shape for final discussion by the central committee for some time, and it was the plan to call a meeting of that committee and of the board of directors of the institute to be held at Colorado Springs during October. Efforts to get a quorum of the board together for the October meeting have been unavailing, and because of the importance of the subject and the desire to have as full a membership of the board present as possible to act upon publicity methods, it has been decided to postpone action until the annual meeting of the institute which will probably be held in December. In the meantime there will probably be a meeting of some members of the institute board in New York at an early date and a poll of the full board to determine the time and place for the annual meeting.

Justice Department Busy

The Department of Justice is still investigating gasoline prices under an executive order dated early last February, when there was reason to believe that far better conditions would prevail in the oil industry than subsequent events have shown. Attorney General Stone is quoted as saying it would be difficult to determine whether the recent general reduction in the price of gasoline could be attributed to the activities of his department, and, in fact expressed doubt that this was the case. On the other hand, local investigators have not hesitated to make what capital they could out of the situation and have been aided by the general press. For instance, when the 4 cent cut came in Massachusetts, credit for it was given to the Massachusetts Commission on the Necessities of Life which had been agitating for lower gasoline prices. This is in line with the general tendency to give the oil companies credit for lowering gasoline prices only on the ground of political expediency. In some lines of business endeavor, the concerns selling a commodity at a sacrifice get a certain amount of approbation, if not sympathy. Another popular reaction to the present gasoline situation is that which accuses the large companies of forcing down prices so as to squeeze the little fellows. Some of the newspapers have already advanced this argument. The severe competition in gasoline which has been one of the most pronounced causes of the drop in the market, presents phases that tend to provoke ill-feeling within the industry itself and internal bickerings are bound to give investigators some more ammunition. As regards the investigation of the Department of Justice, it is stated that no new oil suits by the Government are immediately in the wind. Attorney General Stone stated that until the results of the surveys now being made by department agents were at hand there could be no prediction of the Government's action.

Going and Coming

The attitude mentioned to the effect that gasoline cuts are part of a squeeze play, might be contrasted with the view taken in the LaFollette investigation report made in March, 1923, which said that if a few of the great oil companies are permitted to manipulate prices for the next few years, the people of the country must be prepared before long to pay at least $1 a gallon for gasoline. The point of the contrast lies in the fact that whichever way gasoline prices move there is still an element ready to attach sinister motives. Referring again to the La Follette document is found the positive statement that it is as certain as any future event can be that gasoline prices in the near future will be so ad-

(Continued on Page 123)

RECENT EXPERIMENT STATION ACTIVITIES

(Continued from Page 54)

and valves frequently overcomes the condition. Often, however, the producer may find it impossible to prevent the formation of cut oil and is faced with the problem of treating. This is generally found to present many difficulties since it is desirable to use a method which is low in cost, quick in action and conservative from the standpoint of evaporation. The bulletin prepared on the problem describes various kinds of emulsions and deals with different kinds of treatment such as topping plant operations, steaming, centrifugal and chemical processes.

Natural Gas Problems

Because of the decreasing supply and increasing consumption of natural gas, losses in transmission of gas are of great importance to the public and the natural gas industry. These losses will be of more importance in the future when many of the gas companies will be required to supplement their supply of natural gas with more costly manufactured gas.

Three engineers attached to the Bartlesville station are now engaged in a comprehnsive study of gas leakage. The Natural Gas Association of America is cooperating in this work. As the problem of gas leakage had previously never been made the subject of a systematic engineering study, it was necessary to conduct a series of experiments to determine the rates of flow at different pressures when gas is discharged through various types of channels into the atmosphere. This phase of the work has been completed. A method of testing pipe lines for leakage has been developed and used in tests on 15 pipe lines.

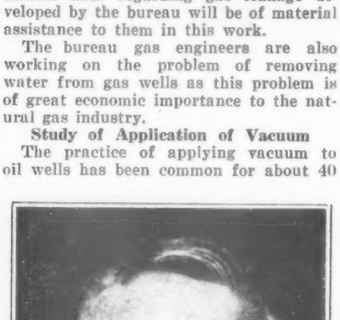
A wide variation has been found in the rates of leakage from the lines tested. Field tests have shown the leakage rates varied from 17,000 to 15,000,000 cubic feet per year per mile of equivalent 8-inch main, at a gage pressure of 100 pounds per square inch.

As individual companies are devoting a great deal of attention to the problem and as some are spending large sums on leakage surveys it is believed the fundamental data regarding gas leakage developed by the bureau will be of material assistance to them in this work.

The bureau gas engineers are also working on the problem of removing water from gas wells as this problem is of great economic importance to the natural gas industry.

Study of Application of Vacuum

The practice of applying vacuum to oil wells has been common for about 40



M. J. Kirwan

years, and according to available information was first used 55 years ago. How much more do we know today regarding vacuum as applied to oil wells than was known 40 years ago? Who can say definitely that vacuum has increased the ultimate production of oil in fields where it has been applied, or whether it is best to have the vacuum act directly on the sand—or to keep the sand covered with oil? How many present here today can furnish positive evidence that the use of vacuum has increased the ultimate yield of oil in any one specific instance? Furthermore who knows whether the evaporation of the light fractions in the oil is desirable over a period of years, even though the casinghead gas is greatly enriched as well as increased in volume?

Comparatively few operators have made a study of the ratios of volumes of gas to oil in producing wells. If such study is made with reference to wells under vacuum is it not probable that a certain critical point will be found for each well, beyond which the increase of gas flow by increasing vacuum will have little effect upon the production of oil?

In recent years compressed air and gas have been used to stimulate the production of oil wells. If this process of artificial stimulation is an efficient means of producing oil, would it follow that vacuum is inefficient? The question as to whether oil should be "pulled" by vacuum or "driven" by pressure is unsettled in the minds of many oil men.

Questions relative to the large investments necessary to install, maintain and operate vacuum systems for the thousands of wells now under vacuum in various parts of the United States, and the relation of these investments to the benefit derived, are worthy of careful analysis.

To determine as many as possible of the foregoing questions and others that may arise, the Bartlesville station has detailed an engineer to make a study of matters pertaining to the application of vacuum to oil wells.

Evaporation Survey

The oil industry is familiar with the work done by the Bureau of Mines on the crude and refined oil evaporation survey started over five years ago. This work is being continued and another bulletin is in course of preparation dealing with recent developments in reducing evaporation losses in the field and at the refineries.

Development and Production Problems

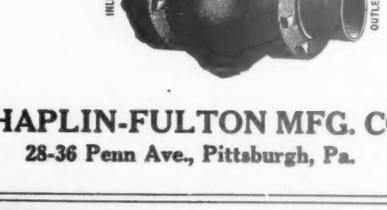
The activities of the Bartlesville station regarding oil field development and production problems are confined largely to the Mid-Continent. Engineering reports have been prepared and published on the Walters, Comanche, Hewitt, Chickasha and Fox-Graham fields in southern Oklahoma and the Deaner, Lyons-Quinn, Slick and Tonkawa fields in central and northern Oklahoma. These reports deal with many problems faced by the producers in developing their properties. They include methods of drilling, methods of protecting oil and gas sands from loss by migration and damage by infiltration of water as well as methods of handling flowing and pumping wells. It is the policy of bureau engineers while engaged in field work to assist operators wherever possible and advise them regarding the latest and most successful practices in other fields. The use of cement to exclude water from oil and gas wells is increasing among Mid-Continent oil operators. Cement and sometimes mud-fluid is depended upon to protect upper oil and gas deposits which are cased off in wells drilled to produce from lower sands. In the Tonkawa Field, for example, the upper sands, that two years ago yielded oil at the rate of over 100,000 bbls. per day, are mudded and cemented off back to one string of casing in wells drilled to produce from the deeper or so-called Slick sand. There are numerous other fields in this country where the protection of valuable oil and gas deposits must depend upon mud fluid and cement. It is evident the proper preparation and use of cement and mud fluid is of great importance to the oil industry.

In view of this the Bureau of Mines has long been interested in detailed field and laboratory studies of mud fluid and cement for oil and gas well use. During the last year laboratory tests have been conducted at Bartlesville on the physical properties of mud fluid. A number of mud fluid penetration tests were made in which consolidated and unconsolidated sands were used. It is interesting to note that mud fluid was forced into unconsolidated sands but could not be forced

High Pressure or Reducing Regulator

The function of this regulator is to reduce the well or line pressure to such a number of pounds as may be safely handled by the low pressure regulator.

Our regular iron body class may be used on any inlet pressure up to 600 lbs. For higher pressures we make special Bronze body regulators. Get a copy of our catalogue, today.



CHAPLIN-FULTON MFG. CO.
28-36 Penn Ave., Pittsburgh, Pa.

167

BEST for Oil and Gas Field Service

Steel Handle Eight sizes 6 to 48 ins. Wood Handle 6, 8, 10, 14 in. sizes.

The TRIMO Pipe Wrench has won first place in the hearts of oil and gas men because it is designed to meet every condition of service.

Drop-forged jaws and handle and strong pressed steel frame; strip-proof threads; nut guards to maintain adjustment when working in close quarters; insert jaw in handle, easily and cheaply replaced when dull or worn. These TRIMO features have been found essential for oil and gas field service.

Your dealer sells it. Insist on TRIMO.

TRIMONT MFG. CO.
Roxbury, Mass.

TRIMO

7366

into consolidated sands or sandstone even under 1,800 pounds pressure. In one test a sandstone core from the productive area of the upper Hoover oil sand in the Tonkawa Field was used. A hole 1 inch in diameter and 6 inches deep was drilled into the core and an effort made to force mud fluid into it. Although a pressure of 2,200 pounds was held on the mud fluid for over one hour no mud (clay) entered the pores of the sandstone. However, water that was squeezed out of the mud fluid entered and passed through the core leaving a wall of solid clay on the inner surface of the hole.

The results of these experiments are of practical importance to oil men as they indicate that somewhat similar results would take place with the use of mud fluid in actual well operation.

Although a great deal of information has been published regarding cement and its uses comparatively little information is available regarding the physical properties of neat cement as it is used in oil and gas wells.

One of the interesting results shown by the laboratory tests on cement was that the volume of a sack of cement when set varies with the amount of mixing water used. For example a sack of cement (94 pounds net) would occupy 1.04 cubic feet when mixed with 35 pounds of 4.2 gallons of water and would occupy 1.3 cubic feet if mixed with 50 pounds or 6 gallons of water. In these tests it was found that the cement settled from 1½ to 2½ per cent leaving an accumulation of water on top of the set cement. The cement did not shrink away from the walls of the containers.

Safety and First Aid Work

Employers in general throughout the country are taking an increasing interest in the safety and welfare of their employes. The petroleum industry is not lacking in this regard and during the last few years has realized more and more that it does not pay to allow employes to become injured through lack of proper instruction regarding their work or through lack of proper safety devices. The care of employes after they have been injured is also engaging the attention of company officials as it is considered good business to have an injured employe recover and return to work as soon as possible thereby avoiding the necessity of filling his position with a new and possibly inexperienced man.

Since its establishment the Bureau of Mines has been engaged in first aid and safety work in the coal and metal fields. This service has been extended to the petroleum industry. About a year ago an engineer was employed and attached to the Bartlesville station to carry on and direct this work in the Mid-Continent Field.

In the safety campaign inaugurated it was deemed necessary to determine the number, causes and severity rates of accidents that occurred during the past several years. Records of 3,800 compensable accidents that occurred in the oil industry in Oklahoma during 1923 have been studied and classified under 17 general causes. A chart showing graphically the number of accidents resulting from each cause has been prepared and may be seen at the bureau booth.

Of the total accidents in Oklahoma during 1923, 72 per cent occurred in drilling and production operations, 13 per cent in the construction and operation of pipe lines, and 15 per cent at refineries and gasoline plants. Although the statistical part of the work has not been completed sufficient information has been obtained to indicate that about 30 per cent of the total accidents occurring in drilling and production work are caused at drilling wells by machinery on the derrick floor.

The safety work will in general be concentrated on particular operations which records show are in need of new or additional safety measures.

A Bureau of Mines rescue car assigned for petroleum first aid work in the Mid-Continent Field is now on a siding near the bureau exhibit. First aid demonstration work, by the instructor who has recently trained more than 500 refinery and oil field workers in Kansas and Oklahoma, is being given daily during the Exposition. Persons attending the Exposition are invited to witness the first aid demonstration work and inspect several types of breathing apparatus that may be used in atmospheres containing hydrocarbon vapors.

After the Exposition has closed the rescue car will continue on its training schedule in Oklahoma.

Oil Well Drill Steel Investigation

A metallurgical study of steel used in oil well drilling tools is now in progress. Special attention is being given to methods of tempering and dressing bits. The Tonkawa Field, where most of the drilling is done with rotary tools and the Burbank where all of the wells are drilled with cable tools, have been chosen as the most desirable fields in Oklahoma to carry on the first field work. In both fields considerable limestone and sandstone are penetrated.

An improvement in the quality of bit steel for oil well drilling as well as improvements in the methods of tempering bits should add to the number of feet of hole made by each bit after it has been sharpened, thereby reducing the time spent in pulling out and running in tools or drill pipe to change bits. One company in the Mid-Continent Field made a "time lost" study of three rotary and three cable tool drilled wells. In this study it was found that 20 to 30 per cent of the total time to drill the rotary wells was consumed in pulling out drill pipe and running it back into the hole in order to change bits whereas only two to three per cent of the total time in drilling the cable tool wells was lost because of bit changing.

Assuming these data as fairly representative of Mid-Continent conditions it is seen considerable time could be saved by having each fish tail bit make more hole while but little time could be saved by decreasing the time spent in changing dull cable tool bits. However, in connection with cable tool drilling it is interesting to note that 551 broken stems were welded by one shop in the Burbank Field in three months. For the purpose of decreasing breakage, a detailed metallurgical study of steel used in stems, bits and jars might result in considerable saving of time and labor for repairs as well as saving time and labor consumed in fishing for lost tools.

Although engineers and chemists of the Bartlesville station are engaged in numerous investigations involving research work the activities of the station include practical demonstration work in the field. The station is frequently called upon to render assistance in drilling and production problems and to take charge of well repair operations. A comprehensive engineering study has been made of underground conditions in the north part of the Drumright Field. This study is being followed with plugging and cementing operations to exclude water from wells.

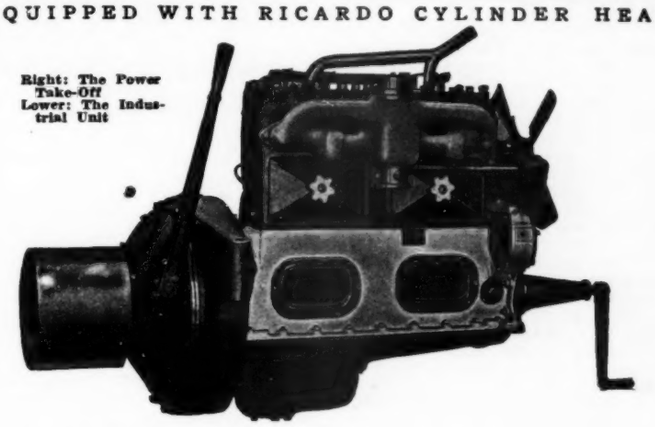
During the early part of the year the bureau was successful in bringing under control a wild crater gas well in the Chickasha Field after the owners found they were unable to handle it. In the Depew Field a wild gas well was conquered with Bureau of Mines assistance in seven days after the owners had worked unsuccessfully for 40 days to close it in. One of the largest gas well fires in Oklahoma occurred recently in the Cromwell Field. This fire was extingushed through the bureau's assistance.

The Bureau of Mines does not hope or desire to study and follow operations in every field in this country. It does however hope to carry on demonstration work of both a technical and practical nature and continue to cooperate with the petroleum industry in the interest of efficiency and true conservation of our natural resources.

CHEAPER BRITISH CARS

British motor manufacturers have announced sharp reductions in prices, Austin Co. announcing decreases of $50 to $500. Overlands with English coach work are reduced $75 and Citroens are $75 to $250 cheaper. Gasoline is cheapest since 1914.

EQUIPPED WITH RICARDO CYLINDER HEAD



Right: The Power Take-Off
Lower: The Industrial Unit

Waukesha
TRADE MARK

All operators of pumps and drilling machinery who ask themselves "How can I get the greatest return, at the lowest cost, on my investment?" will find their answer in the *Waukesha Industrial Unit*—a power plant of unusual efficiency whose operation is not alone economical but gratifyingly dependable. Ask for full details NOW.

Waukesha Motor Company

Engine Builders
Waukesha, Wisconsin
New York City

"TOLEDO"
TRADE-MARK REGISTERED

TRIAL ORDERS UNNECESSARY WITH GENUINE "TOLEDO" TOOLS

Trial orders are never necessary with genuine "Toledos." You know when you buy a genuine, trademarked "Toledo" tool it will give you everything you want in pipe cutting or threading service. There is no guess-work, for a company with 20 years' experience and a reputation for building a perfect article is back of every "Toledo" trademarked tool.

Experienced operators who know "the game" will vouch for the superior efficiency of genuine trademarked "Toledos" for cutting and threading pipe.

Look for the trade-mark when buying, insist on it and accept no substitute. There will be no later regrets.

THE TOLEDO PIPE THREADING MACHINE CO.
TOLEDO, OHIO

REGISTRATION PLAN ENORMOUS SUCCESS

(Continued from Page 23)

05404 United Iron Works.
E. L. Brown, superintendent Custer Oil Co., Route 2, Okmulgee, Okla.

11145 Miller Improved Gas Engine Co.
H. S. Barnes, engineer, Phillips Petroleum Co., Bartlesville, Okla.

01629 National Turnbuckle Derrick Co.
R. L. Clifton, superintendent Carter Oil Co., Tulsa, Okla.

01921 Oklahoma Iron Works.
George Anderson, field superintendent, Highway Oil & Ref. Co.

00522 Parkersburg Rig & Reel Co.
W. D. Taylor, Oklahoma Iron Works, Tulsa, Okla.

13592 M. B. Skinner Co.
O. W. Culp, oil operator, Tulsa Hotel, Tulsa, Okla.

01626 Johns-Manville.
Howard D. Moon, Cosden & Co., Tulsa, Okla.

06158 Bruce-MacBeth Engine Co.
Dick Tilton, Cosden & Co., West Tulsa, Okla.

13862 Dresser Manufacturing Co.
A. L. Barnes, Prairie Oil & Gas Co., 2309 East Second, Tulsa, Okla.

06913 C. F. Braun & Co.
A. P. Fullam, traffic department, Tidal Refining Co., Tulsa, Okla.

04233 Henry Vogt Machine Co.
Raymond Fisher, Empire Refineries, Inc., Tulsa, Okla.

10192 Moon Manufacturing Co.
J. R. Barbe, land department, Shaffer Oil & Refining Co., Tulsa, Okla.

03784 Superior Gas Engine Co.
Charles A. Parkin, The Petroleum Co., Box 1353, Tulsa, Okla.

01806 Frick-Reid Supply Co.
L. D. Hess, manager, Gantz Tank Co.

13239 Reading Iron Co.
A. Waldrene, oil producer, Wichita Falls, Tex.

11780 Black, Sivalls & Bryson, Inc.
D. C. Caudle, Producers & Refiners Corp., Tulsa, Okla.

07251 Lee C. Moore & Co.
George G. Duff, field foreman, Marland Refining Co., Ponca City, Okla.

04095 Hope Engineer & Supply Co.
John McGraw, gasoline department, Roxana Petroleum Corp., Stroud, Okla.

07741 Robinson Packer Co.
A. G. Becker, Cosden Oil & Gas Co., Cooper, Okla.

05752 Wilson Oil Tools Corp.
George F. Storms, Oklahoma Natural Gas Co., Tulsa, Okla.

00408 Lucey Manufacturing Co.
J. K. Whittaker, farm boss, Carter Oil Co., Tulsa, Okla.

10697 National Supply Cos.
George F. Burge, Prairie Oil & Gas Co., Skiatook, Okla.

15833 LeBus Rotary Tool Works.
E. M. Robinson, Transcontinental Oil Co., Box 255, Bristow, Okla.

06443 Southwestern Engineering Co.
E. C. Walter, construction foreman, Keener Oil & Gas Co., Dewey, Okla.

09332 Williamsport Wire Rope Co.
S. B. Landis, traveling salesman, Dempster Mill Manufacturing Co., Oklahoma City, Okla.

09323 Columbian Steel Tank Co.
H. R. Riley, electric welder, Welding Engineering Co., Bartlesville, Okla.

05518 Ajax Iron Works.
J. W. Spencer, blacksmith, Hinderliter Tool Co., 340 North Nebraska, Tulsa, Okla.

09464 Andrews Steel Co.
John S. Hale, branch store manager, Oil Well Supply Co., Duncan, Okla.

07890 Chicago Bridge & Iron Works.
C. C. Bennett, superintendent, E. L. Robinson & Gibson-Zahinson, 1428 East Eighth, Okmulgee, Okla.

Daily Prize Winners

00858 Templeton Kenly Co.
F. O. McCreary, engineer, Tulsa, Okla.

01555 Templeton Kenly Co.
W. H. Vaughn, superintendent, Gulf Refining Co., Tulsa, Okla.

04550 Templeton Kenly Co.
G. M. Davidson, superintendent construction, Empire Gasoline Co., Bartlesville, Okla.

02228 Templeton Kenly Co.
J. B. Johnson, purchasing agent, Tidal Oil Co., Tulsa, Okla.

02507 Templeton Kenly Co.
R. A. Lincoln, drilling contractor,

09651 Templeton Kenly Co.
P. P. Stagg, purchasing agent, Gulf Co. of La., Shreveport, La.

03860 Templeton Kenly Co.
G. J. Turner, field superintendent, Phillips Petroleum Co., Wellington, Kans.

03356 Edwin Burhorn.
L. Medlen, contractor, Medlen Brothers, Tulsa, Okla.

05593 Edwin Burhorn.
W. J. Stewart, superintendent, Devonian Oil Co., Tulsa, Okla.

02162 Edwin Burhorn Co.
J. P. Neilson, Sr., superintendent, McGraw-Baughman & Bearly Co., Tulsa, Okla.

01502 Edwin Burhorn Co.
Arthur Sutton, superintendent, Laurel Oil & Gas Co., Tulsa, Okla.

00753 Barnsdall Refining Co.
E. A. Jones, tool dresser, Garland & Stoner.

01529 Barnsdall Refining Co.
P. J. Woolridge, purchasing agent, Pierce Oil Corp., Tulsa, Okla.

01817 Barnsdall Refining Co.
J. A. Brock, Detroit, Mich.

02947 Barnsdall Refining Co.
R. A. Hamilton, division manager, Atlantic Oil Producing Co., Dallas, Tex.

03015 Barnsdall Refining Co.
W. W. Ford, Cosden & Co., Sapulpa, Okla.

03744 Barnsdall Refining Co.
I. H. Fatton, Jr., sales manager, Lorraine Refining Co., Tulsa, Okla.

01104 Barnsdall Refining Co.
Holt's P. Porter, 723 South College Street, Tulsa, Okla.

05669 Barnsdall Refining Co.
C. S. Lucas, Gulf Pipe Line Co., Tulsa, Okla.

04325 Progressive Brass Co.
Barney L. Raines, machinist, Sapulpa Machine & Tool Co., Sapulpa, Okla.

12600 Progressive Brass Co.
H. J. Strickler, salesman, Acme Brick Co., Fort Worth, Tex.

10555 Progressive Brass Co.
Fred A. Gromer, tool pusher, Transcontinental Oil Co., Bristow, Okla.

05121 Progressive Brass Co.
A. E. Fisher, field superintendent, Waite Phillips Petroleum Co., Tulsa, Okla.

01559 Progressive Brass Co.
Raymond Ford, H. D. manager, Williamsport Wire Rope Co., Tulsa, Okla.

00938 Progressive Brass Co.
J. P. Dobbins, chief engineer, Cosden & Co., Tulsa, Okla.

00992 Progressive Brass Co.
R. J. Bevington, superintendent, Barnsdall Oil Co., Tulsa, Okla.

01201 Progressive Brass Co.
A. M. Bowman, Humble Oil & Refining Co.

01509 Russell Manufacturing Co.
B. H. Davis, engineer, Cosden & Co., Tulsa, Okla.

01261 Russell Manufacturing Co.
T. J. Thurman, Carter Oil Co.

03815 Russell Manufacturing Co.
Clifton Voris, plant superintendent, Route 8, Tulsa Okla., Barnsdall Co.

07260 Russell Manufacturing Co.
J. C. VanHorn, Cosden Pipe Line Co., Barnsdall, Okla.

04064 Russell Manufacturing Co.
E. C. Rupert, 713 North Gillette Street, Tulsa, Okla.

00291 Russell Manufacturing Co.
F. T. Jones, superintendent, Dixie Oil Co., Wewoka, Okla.

12071 Russell Manufacturing Co.
C. R. Hunter, Tulsa, Okla.

06079 Russell Manufacturing Co.
R. S. Lemon, district manager, Oil Well Supply, Parkersburg, W. Va.

12925 Russell Manufacturing Co.
Robert L. Cassingham, Reynolds, Drilling Co., Okmulgee, Okla.

05383 Russell Manufacturing Co.
J. C. Payne, Tidal Refining Co., Tulsa, Okla.

00427 Magneto Ignition Corp.
H. R. Hiatt, Oklahoma City, Okla.

00032 Magneto Ignition Corp.
G. G. McGann, Electra, Tex.

03128 Magneto Ignition Corp.
F. J. Hennekes, Campion Oil Co., Tulsa, Okla.

07105 Magneto Ignition Corp.
B. F. Graham, Omaha, Neb.

06037 Magneto Ignition Corp.
L. W. Weeks, Tulsa, Okla.

11017 Magneto Ignition Corp.
L. M. Bound, superintendent, Empire Refining Co., Okmulgee, Okla.

10123 Magneto Ignition Corp.
Wyatt Phillips, Tulsa, Okla.

07122 Magneto Ignition Corp.
J. O. Linkons, Layman, Okla.

Grand Prize

02228 Magneto Ignition Corp.
J. B. Johnson, Tidal Oil Co., Tulsa, Okla.

00016 Hill Hubbell Co.
H. P. Mannings, Foamite-Childs Corp., Tulsa, Okla.

01529 Hill Hubbell Co.
P. J Woolridge, agent, Pierce Petroleum Co., Tulsa, Okla.

02903 Hill Hubbell Co.
Redmond S. Cole, attorney, Gypsy Oil Co., Tulsa, Okla.

00389 Hill Hubbell Co.
W. S. Hart, D. M. Hazard Manufacturing Co.

02035 Hill-Hubbell Co.
H. V. DeRousee, manager, Oil Well Supply, Tulsa, Okla.

07002 Hill- Hubbell Co.
J. C. Miller, assistant auditor Gladys Belle Oil Co., Tulsa, Okla.

11052 Hill-Hubbell Co
T. J. Livingston, pipe fitter, Cosden & Co., Tulsa, Okla.

05652 Hill Hubbell Co.
B B. Bateman, engineer, Sinclair Oil & Gas Co., Covington, Okla.

12270 Hill-Hubbell Co.
H. S Clark, assistant agent, Oklahoma Natural Gas Co., Covington, Okla.

04753 American Schaeffer & Budenberg Corp.
Dewey Hall, Phillips Petroleum Co., Cooper, Okla.

02391 American Schaeffer & Budenberg Corp.
J. B Radford, Hudson Drilling Co.

05403 American Schaeffer & Budenberg Corp.
H. W. Beddoe, Russel Manufacturing Co., Oklahoma City, Okla.

05894 American Schaeffer & Budenberg Corp.
Louis Boudreaux, Sinclair Oil & Gas Co., Tulsa.

01479 American Schaeffer & Budenberg Corp.
R. D. Simpson, Grapholeum Products Co

01280 American Schaeffer & Budenbreg Corp.
E. W. Dodge, Sheredon Oil Co.

01280 American Schaeffer & Budenberg Corp.
W. L. Terry, Josey Oil Co., Tulsa, Okla.

05973 American Schaeffer & Budenberg Corp.
W. G. Chandler, Mammoth Oil Co., Casper, Wyo.

00035 American Cable Co.
A. B. Stilwell, Guiberson Corp., Tulsa, Okla.

01313 American Cable Co.
F. A. Mathis, Sinclair Oil & Gas Co., Tulsa, Okla.

01330 American Cable Co.
D. D. Smith, 2727 East Seventh Street, Tulsa, Okla.

05520 American Cable Co.
Gilbert Estill, chief clerk, Oklahoma Natural Gas Co., Tulsa, Okla.

00264 American Cable Co.
William C. Freetorius, Jr., oil field worker, Prairie Oil & Gas Co., Avant, Okla.

12803 American Cable Co.
F. M. Jennings, tester in laboratory, 141½ North Main, Sapulpa, Okla.

05862 American Cable Co.
E. L. Eads, office man, Parkersburg Rig & Reel Co., Parkersburg, W. Va.

04614 Norris Brothers.
Ralph Hague, Bridgeport Machine Co., Tulsa, Okla.

02169 Norris Brothers.
H. L. Curry, scout, Shaffer Oil & Gas Co., Tulsa, Okla.

04210 Norris Brothers.
G. E. Young, pumper, Wolverine Oil Co., Wolco, Okla.

02223 Norris Brothers.
Sam N. McPherson, Wapa Mahe Oil & Gas Co.

04520 Norris Brothers.
E. K. Hatheway, auditor, Reid Fuel Co., Bartlesville, Okla.

07032 Norris Brothers.
R. S. Huffman, land and lease, Oklahoma Natural Gas Co., Tulsa, Okla.

09318 Norris Brothers.
G. C. Mitchell, lease foreman, Prairie Oil & Gas Co., Kiefer, Okla.

11899 Norris Brothers.
Clyde McKissick, foreman lease, J. F. Sweeney & Co., Sand Springs, Okla.

04345 Norris Brothers.
Charles F. Bailor, Murray Tool & Supply Co., Cleveland, Okla.

03834 Tank Car Gauge Co.
C. A. Bright, tool dresser, Mobel Oil Co., Copan, Okla

06363 Tank Car Gauge Co.
J. P. Johnson, superintendent, Mid-West Paint Co., Independence, Kans.

04798 Tank Car Gauge Co.
Bob Wells, water and gas man, Carter Oil Co., Cromwell, Okla.

04488 Tank Car Gauge Co.
A. E. Hurley, president, Hurley Smith Co., Los Angeles, Cal.

04297 Tank Car Gauge Co.
T. R. Parker, sales department, Skelly Oil Co., Tulsa, Okla.

09720 Tank Car Gauge Co.
H. S. Moss, general manager, Moss & Keys, Mexia, Tex.

05135 Tank Car Gauge Co.
Gus Wells, clean out man, the Carter Co., Tulsa, Okla.

07518 Tank Car Gauge Co.
Floyd Agee, contractor, 347 South Wheeling, Tulsa, Okla.

05610 Tank Car Gauge Co.
Ed E. Armstrong, chemist, Skelly Oil Co., Kaw City, Okla.

08622 Tank Car Gauge Co.
Frank Chaffin, pumper, Marland Refining Co., Hominy, Okla.

06030 Wico Electric Co.

09156 Pyle National Co.
Earl Sexton, Oil Well Supply Co., Tulsa, Okla

10966 Waukesha Motor Co.
W. S. Warrington, Cosden & Co., Tulsa, Okla.

12287 Bovaird Supply Co.
A. M. Schrepper, Vickers Petroleum Co., Wichita, Kans.

03054 Novo Engine Co.
O. J. Morton, Empire Gas & Fuel Co., Bartlesville, Okla.

13776 S. M. Jones Co.
H. B Carpenter, purchasing agent, the Ohio Oil Co., Findlay, Ohio.

06443 Southwestern Engineering Co.
E. C. Walker, Keener Oil & Gas Co., Dewey, Okla.

08032 Oil Conservation Engineering Co.
W. O. Richardson, Sitrin Oil & Gas Co., Tulsa, Okla.

00034 Stanley Belting Co.
Walter O'Bannon. Walter O'Bannon Co., Tulsa, Okla.

01769 Foamite-Childs Corp.
H. O. Helvie, Asst. Supt., Carter Oil Co., Tulsa.

06818 Foamite-Childs Corp.
Hugh R. Hefley, Sherwin-Williams Paint Co., Tulsa, Okla.

03582 Foamite-Childs Corp.
Dale C. Keitz, 206 Cosden Bldg., Tulsa, Okla.

12758 Foamite-Childs Corp.
A. C. Fletcher, Supt., Western

States Oil & Land Co., Dear Creek, Okla.

00704 Foamite Childs Corp.
J. L. Bernhardt, Pure Oil Co., Depew, Okla.

01935 Foamite-Childs Corp.
Ben H. Levy, Tulsa.

01344 Foamite-Childs Corp.
J. T. Sparkling, Oil Conservation & Engineering Co., Tulsa, Okla.

01657 Foamite-Childs Corp.
A. D. Elliot, president, Elliot Machine & Supply Co.

07414 Hopkins Motor Co.
George Miller, foreman, Atlantic Oil Producing Co., Hominy, Okla.

UNION OIL CO., CAL., NINE MONTHS REPORT

The Union Oil Co. of California's summary of the company's operations for the nine months ended September 30, 1924, and the financial position as of that date shows profits earned from all operations, less general expenses, taxes (including income tax), interest charges, employes' share of profits and provident fund, approximately as follows:

	1924	1923
Profit, subject to depreciation, etc.	$17,500,000	$17,000,000
Provision for:		
Depreciation and depletion	5,200,000	4,650,000
Labor and incidental cost of new drilling	3,300,000	5,150,000
Net profit for the nine months	$9,000,000	$7,200,000

Production of crude oil by the company and controlled companies combined was approximately 11,200 000 bbls., a decrease from the same period last year of 2,100,000 bbls. Present daily production of the company is approximately 42,000 bbls. In addition 140 wells are shut in, capable of producing 12,000 bbls. per day. Forty-four new wells were brought in during the nine months and eight wells were deepened. On August 8 oil was found in the Whitaker well in Larimer County, Colorado, which well was (except for a flow of about 750 bbls. daily between the 6 and 8-inch casing) shut in on account of lack of storage and until arrangements could be completed for the sale of the oil and pipe line connections made to the railroad. This is now being accomplished and the well should be opened within the next week. At the moment we consider the outlook for our properties near Fort Collins to be distinctly encouraging.

Sales for the nine months approximated $50,700 000, a decrease in value of $4,400,000, occasioned by smaller shipments of refining crude to the Atlantic seaboard.

Capital expenditures approximate $8,803,000, consisting principally of the cost of leased territory, drilling new wells, and expenditures of marketing facilities.

Current assets, consisting of cash, United States bonds and treasury certificates, accounts and bills receivable, oil inventories and materials and supplies, together with unpaid stock subscriptions amounting to $163,320, aggregate $47,000,000, an increase of $4,750,000 over December 31, 1923. Current assets are almost 6 to 1 of current liabilities. Current liabilities at September 30, 1924, approximate $8,000,000, an increase of $700,000 over December 31, 1923. During the nine months there has been a decrease in mortgage debt in the hands of the public of $4,239,969 making the total reduction in indebtedness during the nine months $3,539,969.

Capital stock subscriptions already paid on the offering of $4,500,000 capital stock made in January last, amounted to $4,336,680, leaving a balance of $163,320 to be paid on November 10.

Quarterly dividend of $1.80 per share on October 6, payable on October 28 to stockholders of record at the close of business October 10. The stock transfer books of the company will not be closed. Stockholders will be notified in due course when to surrender $100 par share certificates for the new certificates of $25 par value.

Prairie Paying For All Oil It Runs

Storage Charge Waived in Cases of Operators Accepting Offer Before October 31

Announcement was made on Tuesday of this week by the Prairie Oil & Gas Co. that it would resume immediately paying in full as of October 1 for all oil run for its accounts, thereby modifying the storage plan which it inaugurated July 17. In addition to paying for all the oil it runs, the Prairie announced that in all cases where owners of storage receipts desire to take advantage of this offer to cash such receipts at the present market price for crude and do so and surrender such receipts to the treasurer of the Prairie for payment on or before October 31, the accumulated storage of 3 cents a barrel per month will be waived by the company.

The announcement follows:

"The Prairie Oil & Gas Co. will immediately resume paying in full as of October 1, 1924, under the terms of its regular division orders, for all oil run for its account and the storage plan of July 17, 1924, is modified in accordance with this notice.

"Owners of this company's storage receipts, who desire to receive payment in cash for the oil covered by such receipts, are hereby notified that this company will cash all such receipts, paying this company's posted price at present in effect as follows:

Below 30 degrees Baume gravity, 75 cents per barrel.

30 degrees to and including 32.9 degrees Baume gravity, 90 cents per barrel.

33 degrees to and including 35.9 degrees Baume gravity, $1.10 per barrel.

36 degrees Baume gravity and above, $1.25 per barrel.

"In all cases where owners of storage receipts desire to take advantage of this offer to cash such receipts at the present market price, and do so and surrender such receipts to E. T. Patterson, treasurer of the Prairie Oil & Gas Co., at Independence, Kans., for payment on or before October 31, 1924, the accumulated storage of three cents per barrel per month will be waived.

"This offer to pay for storage oil, with waiver of storage charges, will only apply to those receipts actually presented to the treasurer of this company on or before October 31, 1924. Any receipts not presented to the treasurer of this company under the terms of this offer on or before October 31, 1924, remain outstanding subject to the election and call of this company under the strict terms of the receipts themselves.

"In conection with the above announcement the attention of producers is called to the fact that production in the Mid-Continent Field is still large, the industry is just entering the low winter period of consumption, and our market for crude oil is still inadequate to absorb our entire purchases. It is hoped that producers will not misconstrue the above action taken by this company, such action is taken for the purpose of extending to the company's patrons the largest possible measure of financial relief under the present depressing conditions throughout the industry."

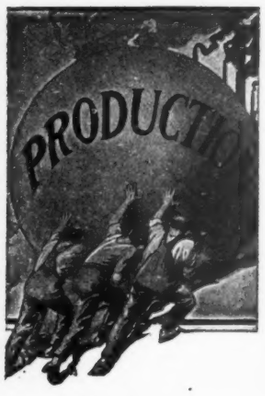
The announcement of the Prairie is of the utmost importance to operators in the Mid-Continent area who have been paid for half their oil while the other half was stored under an agreement whereby the Prairie agreed to purchase it at the market price any time within one year from the time it was run, charging 3 cents a barrel a month storage but assuming all riks of fire, evaporation, leakage, etc. The storage plan of the Prairie was unique in this regard inasmuch as the receipts given operators for the half of their oil stored could be used as collateral in obtaining loans.

The statement in the announcement that it is hoped operators will not misconstrue the announcemnt and that the action was taken to aid operators as much as posible at this time, is significant. Production of crude oil at present is greater than is being absorbed by the market and oil is still going into storage. Should operators accept the announce-

(Continued on Page 123)

CLOSING DAY OF INTERNATIONAL PETROLEUM EXPOSITION

—Photo by Ed L. Miller, Tulsa.



Pushing Production

to meet the demand necessitates the saving of all useless operations about the plant, among which is the constant repacking of piston rods and small valves.

This may be avoided by using

"PALMETTO"

the packing that has the quality to give long, satisfactory service.

Braided for rods, round and square, in 5-lb. boxes.

Such a packing may cost a little more than ordinary packings, but it is worth it.

Twist for small valves. Any size valve packed from one spool by unstranding.

¶ *Let us send you working samples to test under your own conditions—no charge.*

GREENE, TWEED & CO.
Sole Manufacturers
109 Duane St., New York

FIRE PREVENTION IN OIL PROPERTIES

(Continued from Page 32)

apply to this safe type of tank construction, which is to the non-gas-tight tank, as the most modern reinforced concrete fire resistive buildings is to the frame shack.

Static Hazards

At our meeting in Buffalo last year Messrs. Naylor and Ramsey of the Atlantic Refining Co. presented a paper on static electricity, caused by streams of oil falling into a tank. It was demonstrated that a spray of falling oil under certain conditions, could produce extraordinary electrical discharges—sparks several feet long. I have found this to be a rare source of fire. It is a hazard, which may be removed by merely submerging all connections which discharge oil into the tank. The over-shot connection is a serious offender as regards evaporation loss besides being a fire hazard. There is no particular reason for its existence and all connections of this type should be corrected.

A very unusual case of static was called to my attention last winter. A large oil company was engaging in the process of steaming out a tank. It was a steel roofed 55,000-bbl. tank with steel supporting members. A 1½-inch steam line had been discharging into the tank for about three-quarters of an hour when an explosion occurred, blowing off the roof of the tank and igniting the non-gas-tight tank next to it, about 10 feet away. Sufficient gas remained in the 55,000-bbl. tank after it had been steamed for three-quarters of an hour to permit the fire to burn for three minutes. The adjoining tank contained gasoline and was extinguished with the foam system. What is of great interest is the cause of the fire. Subsequent experiments in an empty tank proved that the steam jet unquestionably generated a great deal of electricity. A corona discharge was observed all around a similar jet in a darkened tank. Luminescene appeared at tips of fingers of individuals approaching near the jet and from objects pushed within the zone of the steam discharge. It is of interest to know that Lord Armstrong many years ago, developed an electro-static machine which consisted merely of a row of spikes which acted as a collector, and a steam jet. With this device Lord Armstrong was able to draw electric sparks 5 to 6 feet long. This subject of steam as a static producer was also brought to our attention last year by Messrs. Naylor and Ramsey. Just what condition obtained which caused the ignition of the 55,000-bbl. tank is not known. It is possible the steam jet discharged against an insulated upright roof support, or it is also possible a miniature thunderstorm was caused within the tank by the steam jet, the rapid condensation of the steam and formation of drops of water being analogous to conditions which develop in a thunder shower. The extreme rarity of such fires is proof positive the hazard is very small. Of course the steam hose should be properly grounded and the steam should not be blown directly against any supporting members of the tank roof. Beyond this, there appear to be no further precautions that should be taken, although I would be interested in having this point discussed later.

Risks From Carlessness

It is remarkable how few tank fires are caused directly by carelessness. Only once in a great while do we hear of a tank fire being caused by the match or smoking hazard. Occasionally gross carelessness with welding torches is the fire cause. In one instance an employe cut into an overhead run-down line with a welding torch about 200 feet away from the run-down tank. Fire flashed back through the pipe and that ended the career of that tank. One classification of tank fires has been of considerable interest, those classified because of lack of evidence as of unknown cause. It is possible some manifestation of static may be the cause in certain cases, but in most cases nothing we know about static and the conditions under which it is produced, would apply. I believe spontaneous ignition is the answer, at least occasionally. In tanks containing cracked distillates, or crudes of high sulphur content, there is a considerable formation of sulphur deposit on the under side of the tank roofs. Samples of this material analyzed have contained free sulphur, organic sulphides, iron sulphide and iron oxide. Iron sulphide when freshly formed is pyrophoric; it will greedily absorb oxygen until it becomes heated to the point of incandescence. Gases given off from cracked distillates and high sulphur crudes contain hydrogen sulphide and organic sulphides. It is probable these gases react with the bare iron, or iron rust incrustation on the inside of the tank to the extent of producing under certain conditions a considerable amount of iron sulphide. It is then supposed this material absorbs oxygen and reaches a glowing temperature, at which temperature it may burst into flame and ignite the explosive vapors in the tank.

Naturally, you are interested in what can be done to prevent this spontaneous ignition. I do not know it can be effectively prevented. It appears to be one of the hazards of the oil business. Fortunately it does not happen often. The only remedy I know of is regular cleaning, scraping, and painting of the interior of tank roofs and structural members inside of tanks where this formation occurs.

Vent Screens

There is one detail of tank construction that has a close bearing on fire prevention. Vent screens as usually installed and maintained are quite ineffective as flame arrestors. Unless a systematic method of inspection of vent screens is pursued, it is probable a large percentage of the vent screens at any location will be found defective, clogged or corroded through. Particularly on tanks containing sour distillates it is necessary to renew the vent screens as often as once a month. A monthly inspection should be maintained on the vent screens in every tank and where the gases coming from certain grades of oil are particularly corrosive, this inspection should be made at least every two weeks.

Metal vent screens will arrest flame only by reason of their ability to conduct the heat away very rapidly to adjacent solid metal parts thereby preventing the formation of ignition temperature in the other side of the wire screening. If the distance from the central part of the wire screen to solid metal is too great, a single thickness of gauze will not serve, but a double or triple thickness is required. Beyond certain dimensions even a triple thickness of wire screening is unsatisfactory. All this was demonstrated by the Underwriters Laboratories of Chicago, Ill., in an investigation in 1919. To provide enough venting area and still have the screen dimensions suitable, it is necessary a number of small 2-inch diameter screens be provided or the wire gauze screen be clamped between a grill work of heavy metal and the ports in the grill work should not exceed the area of a 2-inch pipe. Single sheets of wire gauze 6 inches to 18 inches in diameter found on many old tanks today are inadequate as flame arrestors.

Extinguishing Fires

Now a few words about extinguishing fires.

After a tank fire starts there are two methods of fighting it, with steam and with foam. Steam as normally applied is not effective unless the roof remains on the tank, which it usually does not. Tank fires usually start with an explosion, and off comes the roof. In such cases if steam is applied through one or several pipes at the shell of the tank it is absolutely ineffective. Steam is of value, however, in preventing the ignition of exposed tanks nearby.

To extinguish the average oil tank fire there is only one agent tried and proven. That is foam. There have been quite a few failures of so-called foam systems. These failures have prejudiced many against the use of foam. I do not know of a single instance where a foam

A Congress Every Week

Every week of the year thousands of oil men in all parts of America read the Classified Advertisements assembled from every Petroleum State in the Union.

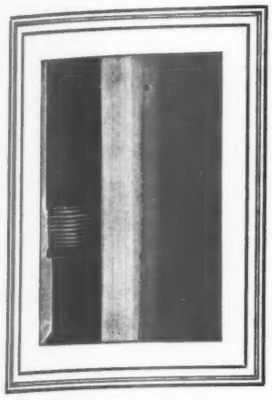
The States represented in this week's Classified Wants Section are:

Oklahoma Missouri
Delaware Kentucky
Colorado Maryland
Louisiana Wyoming
Arkansas New York
California Illinois
Mississippi Indiana
Pennsylvania Kansas
West Virginia Texas
Massachusetts
Mexico

The advertisers and readers have confidence in the Classified Wants Section because they know it will help them to buy and sell at most reasonable prices.

Whenever you want to buy or sell ANYTHING pertaining to the Petroleum Industry use The Oil and Gas Journal Classified Wants Section. It will help you.

The Oil and Gas Journal
Classified Wants Section
"Biggest in America."



Texas Pattern Shoe.

Larkin

Shoes
Packers
Die Nipples
Swabs
Clamps
Oil Savers

QUALITY - First
Prices Reasonable

Sold By Leading Supply Companies

LARKIN
Packer Co.

St. Louis, Mo. Tulsa, Okla.

system, designed in accordance with accepted standards, maintained in proper condition, and operated with fair judgment has failed to extinguish a tank fire.

Other methods of handling oil tank fires have been and are being developed; water, carbon dioxide, and carbon tetrachloride, yet in my opinion in the development stage. They do not have any record of actual fires to prove their merit. They work all right under test conditions but may I say a "test" tank fire is a very unsatisfactory way of proving what will happen in a real fire under the conditions imposed by an initial explosion, or a driving storm.

Fires in Stills

Next to tank fires, the most frequent and expensive fires are those in stills.

It is not realized usually that of all the fires in oil properties, perhaps 50% occur in the distillation process. Most frequently these are small fires caused by small oil or vapor leaks. They are extinguished with hand extinguishers, steam jets, water hose, or by "pumping out" the still, with negligible loss. Occasionally, however, something lets go a still cracks open, a high pressure drum explodes, or an oil line breaks and a conflagration is started. The wonder is such fires are so few. The least leak, defect or wearing out of any part is almost certain to cause a fire. Only continual inspection and expert operation will prevent still fires. However, a great deal can be accomplished in providing facilities to prevent the spread of such fires, and means for controlling them rapidly under the severest conditions.

In the first place fire walls 24" to 30" high should be provided around every battery of stills so far as practical. It is usually possible to use the near wall supporting the condenser boxes as part of this surrounding fire wall. This has the double advantage of economy, and subdivision of values as it places the condensers outside of the fire wall. To protect the condensers further, and to protect any towers mounted over them, a fire barrier of brick, tile, asbestos board, or sheet steel (the latter equipped with water sprays), may be erected from the ground up, adjacent to the condensers, all openings being protected with standard fire doors. This forms a splendid fire barrier, protects the condensers and towers and gives advantageous position to those who may have to fight a fire.

As far as practical by means of fire walls, it is further desirable to break up the fire areas in and among the units of any battery of stills so a flood of hot oil pouring from a break will endanger as few adjoining stills as possible.

Particular attention should be paid to the method of supporting vapor lines, flow lines, charging lines, in fact all oil and vapor lines. Most frequently these pipe lines are carried overhead on unprotected structural steel work. Any severe fire will bring them down in short order, often even before effective fire fighting can be commenced. These oil lines may drain other stills, and the additional fuel added to the blaze may cause it to become uncontrollable. All supports for such lines should be protected with material known to have at least a three hour fire resistance period.

Handling Still Fires

One of the simplest and most effective ways of handling a serious still fire is quickly to pump out the burning still and those menaced. The importance as a fire protection measure of having large pumps for this purpose and large pumping-out lines is apparent. But it is essential the pumping-out valves shall be equipped with remote controls so they can be operated safely and surely—usually from back of the condensers. Likewise, to pump out a still the tar plug, if there is one, must be up. As tar plugs habitually stick it is desirable the still be run with these plugs in open position, reliance for closure of the pumping out line being placed on the pumping-out valves, which may be in duplicate. Remote control and frequent inspection of the tar plugs should likewise be provided so they may be operated surely and quickly from a safe position in emergency.

Glass gauge columns are serious offenders. It is most often impossible to use the customary safety ball-check valve for these gauge glasses The ball checks corrode or coke up and will not operate. Where a gauge column is necessary, a pipe column fitted with closely spaced pet cocks is safe, if in addition the gauge connections to the still are fitted with well designed lever operated globe valves, the levers being held in open position by a chain and fusible link.

A great many still fires are the result of carelessness and caused by pumping over when charging, or permitting water to get into the charging stock causing the still to froth over. Improper inspection or testing of safety and vacuum valves, clogging of traps and run back lines are all hazards, which may be relieved by proper inspection. In high pressure stills, particularly, the importance of inspection is doubly significant. I do not believe it is generally realized how high temperatures affect the tensile strength and physical properties of the metal used. Ordinary steel plate becomes very brittle in the two temperature zones 200° F. to 400° F. and 800° F. to 1000° F. The ultimate strength of steel increases up to about 400° F., at which temperature certain grades of steel actually become 40 per cent stronger than at ordinary temperatures. At 700° F. the steel has about the same ultimate strength as at 70° F. At 1000° F. it has lost half of its initial ultimate strength. The elastic limit, however, which should determine the design and strength of parts rather than ultimate tensile strength does not increase materially above its initial value. At 600° F. the elastic limit is only one-half of its value at 70° F. At 900° F. it has fallen to one-third.

Thickness of Steel

It is usual to measure the thickness of the steel in different parts of a high pressure still at regular intervals because the hot oil apparently erodes the steel until it becomes quite thin. Naturally, since steel is much weaker at the working temperatures of high pressure stills than at ordinary temperatures this matter must be watched very carefully and worn parts must be replaced before they become dangerously thin, due consideration being taken of the elastic limit of the steel at the working temperatures of the still.

As with tank fires, the most effective medium for handling a serious still fire is foam—applied this time through hose streams. At one very large plant that has a very successful record in handling still fires, the superintendent told me he would not permit a drop of water to be used on such fire. Uuless water is used very carefully around a still it may very easily crack a hot fitting. We all know that water is not effective in extinguishing burning oil—it acts as a vehicle for spreading an oil fire. However, it is of advantage in keeping structural steel work nearby cool. For this reason I feel the cautious use of water in keeping things cool until the foam system can be brought into action is advisable. Then the use of water should be discontinued and the foam hose streams should be used, as the simultaneous application of water and foam will result in the water braeking down the foam.

OLD-TIME OIL MAN DEAD

TOLEDO, Ohio, Oct. 13.—Word has just been received at Toledo, Ohio, of the death of an old-time oil man at West Chicago, Ill. Many of the old-timers in the Lima Field will remember Thomas Potts, who came to Ohio from Pennsylvania many years ago and who had full charge of the Hardy Machine Co.'s plant at North Baltimore, Ohio, back in the late '80s and '90s when the oil field was in its prime. Mr. Potts was also a producer in Wood and other well known Ohio producing counties. He died at West Chicago at the age of 68 years. At his death he was chief inspector of the Union Tool Co.'s plant at West Chicago.

MONTHS of Service Instead of WEEKS

Ten or twelve months of continuous production has followed the installation of NO-CO-RO Balls and Seats in many sandy or acid-bearing wells that previously had to be shut down every few days or weeks and the rods pulled for the renewal or repair of valves that had become broken, worn or badly pitted.

Think what that means in volume and cost of production—only one period of non-production in a whole year with NO-CO-ROS as against 15 to 25 when ordinary balls and seats are used, to say nothing of the amount spent for pulling the rods and replacing the valves.

NO-CO-RO

TRIPLE TESTED

ALWAYS GUARANTEED

BALLS and SEATS

Will not rust, pit or corrode

Production Insurance

NO-CO-RO Balls and Seats are scientifically manufactured from a special alloy steel and are absolutely guaranteed against breakage—they do not pit, rust or corrode under the action of sand, water or acid. They function perfectly for long periods of time under the most severe conditions, insuring steady, cheap production and putting many additional dollars into the producer's pocket.

"Cheap" balls and seats, in the long run, will cost you many times as much as NO-CO-ROS in pulling costs and reduced production so why bother with them when you can get NO-CO-ROS so easily. At your supply house or direct.

Manufactured by

NORRIS BROTHERS, Inc.
Manufacturers of Oil Well Pumping Equipment
Robinson, Ill.

RED GIANT

Trade Mark Registered

VALVE CUPS

Why experiment?

We spent years experimenting for you before putting this Valve Cup on the market ten years ago. You can depend on the RED GIANT Cup giving the longest service. Made by a concern who have specialized in the manufacture of composition Valve Cups since 1875—the oldest Valve Cup company now doing business.

We know, just as the shrewd and careful operator knows, how important it is to have a Valve Cup that you can depend on giving you the longest wear on the average against the many annoying conditions which are experienced in more or less degree in every oil field.

Adopt the RED GIANT Valve Cup for your wells and reduce your maintenance as well as increase your production.

Ask your dealer or write us.

Parker Cup & Specialty Works

Making Valve Cups Since 1875

Parkers Landing, Pa., U. S. A.

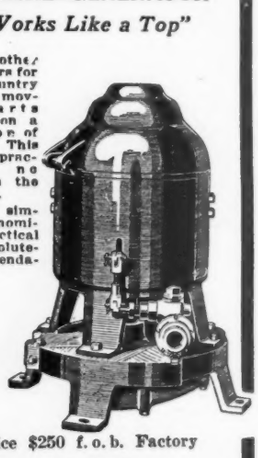
Sole manufacturers also of the Genuine Karns Bow Spring, Graphite Bow Spring, Black Giant, Karns Copper Expansive and Parker Canvas Cups.

THE "FROST" VERTICAL TURBINE GENERATOR

"Works Like a Top"

Unlike other generators for oil country use, the moving parts float on a cushion of steam. This means practically no wear on the bearings.

It is simple, economical, practical and absolutely dependable.



Price $250 f. o. b. Factory

Sales Office

FROST GENERATOR CO.,
508 Commercial Bldg.
Tulsa, Okla.

Telephone Osage 2798—Cedar 2158

Kesselman & Co.

Manufacturers of

Drilling and Fishing Tools

for Oil, Gas and Artesian Wells.

Parkersburg, W. Va., Butler, Pa.

Late News From the Fields

OKLAHOMA

An important discovery about 6 miles northwest of Okemah in Okfuskee County was made by the Sinclair Oil & Gas Co. early in the week when its No. 1 Yarhola, NW cor. NE SE, Section 22-12-9, a rank wildcat, encountered a sand at 3 770 feet with oil in the top. The hole filled up with oil and was slopping over, with some gas showing. The bit was going ahead at 3 785 feet. Only one of the dry holes in the vicinity reached the depth of this well and it was more than 1 mile northwest.

The Mountain States Oil Co.'s No. 1 Lewis, SW cor. Section 5-13-6, about 6 miles southwest of the Stroud Field in Lincoln County, was making a little gas through a hole full of water at total depth of 4,266 feet.

In the Burbank Field, the Carter Oil Co.'s No. 9 Lyman, C NE SW NW, Section 11-27-5, topped the sand at 2,934 feet, found oil at 2,943 feet and at total depth of 2,995 feet was shot with 120 quarts making 637 bbls. afterward. Its natural production was 210 bbls. Same company's No. 10 Lyman, C NW SE NW, same section, was nearing the pay, being below 2,940 feet. Nos. 11 and 12 in the E half of the NW, same section, was drilling at shallow depths.

The Carter Oil Co.'s No. 6, C NW SE NE, Section 13-27-5, topped the sand at 2,940 feet, encountered oil at 2,948 feet to 3,003 feet and went a foot deeper. The first 24 hours' gauge was 207 bbls. Same company's No. 3, CSL SW SE NW, same section, made 59 bbls. natural from sand at 2,940-3,010 feet. First oil came at 2,950 feet and total depth was 3,012 feet. Carter's No. 5, CEL NE SE NW, same section, topped sand at 2,970 feet, found oil at 2,975-3,000 feet and when shot with 120 quarts, produced 15 bbls. in the following 24 hours.

In the Osage, the Olean Petroleum Co. was building a rig for No. 3, SW cor. Section 36-26-11. Same company was rigging up its No. 1, SW cor. NE, Section 12-25-5.

In Pawnee County, The Texas Co.'s No. 1 Ellis, NW cor. Section 27-20 6, was good for 1,400 bbls. in the first 24 hours after deepening to 3,093-3,103 feet, and at latest report was making 1,080 bbls.

In western Tulsa County, the Superior Oil Co. was drilling its No. 4 Johnson, SE cor. NW SE, Section 26 29-11, at 2,148 feet. Wood & Whorton abandoned their No. 2 Inchoe, NW cor. SE SW, Section 35-19-11, an old well drilled deeper, with a hole full of water at 2,200 feet.

Bruner Pool Operations

In the Bruner Pool, Tulsa's backyard area, the Echo Oil Co.'s No. 1-A Partridge, NW cor. SE SW, Section 5-19-12, was drilling at 800 feet. The Shaffer Oil & Refining Co.'s No. 2 Partridge, SE cor. NW SW, same section, was drilling at 1,400 feet. Thompson & Black's No. 2-A Grayson, NE cor. SW SW, same section, was shut down at 1,983-87 feet with oil and gas showing, waiting on pipe line connections.

In the Lawnwood town lot area, Morgan & Hancock's No. 2 Townsite, S NW NW NW, Section 8-19-12, ran into water at 2,005-28 feet then was plugged back to sand at 1,972-2,005 feet and made 10 bbls. natural.

The Brooks Drilling Co. and others had a 20-bbl. well in their No. 1-A Hawkins, SW cor. NW SW, Section 29-19-12, from sand at 2,043 46 feet. Total depth was 2,171 feet. Stebbins and others' No. 17 Keifer, SW cor. Section 31-19-12, was making 10,000,000 feet of gas from sand at 1,740 46 feet.

East of the metropolis, O. O. Owens and others abandoned their No. 1-A Grayson, SE cor. SW NE, Section 13-19-13, as dry at 1,835 feet.

Shaw and others' No. 1 Grayson, CNL NE NW NW, Section 18-19-14, was making 4 bbls. natural from sand at 1,430-50 feet.

Pouder & Pomeroy abandoned the rig for their No. 6 Bruner, CEL SE SW, Section 9-18-13.

Peterson and others were drilling their No. 1 Rhodes, C NW SE, Section 11-17-12, at 1,705 feet. Bradstreet and others were rigging up tools for their No. 1 Boling, SW cor. Section 27-17-12.

In the southeastern corner of the county, the Frates Oil Co. was drilling its No. 2 McHenry, NW cor. SE, Section 1-17-14, at 500 feet. J. A. Hull Co. and others were drilling on top of sand at 1,287 feet in their No. 1 McHenry, NW cor. SE SE, Section 1-17-14. Green and others shot their No. 1-A Gaines, SE cor. NE NE, Section 2-17-14, with 40 quarts in sand at 1,315 27 feet and it made 20 bbls. J. W. Holden's No. 1-A Grant, NW cor. NE NW, Section 19-16-13, across the line in Okmulgee County, made only 3 bbls. after a 40-quart shot in sand at 1,040-80 feet.

In Other Counties

In Stephens County, the Magnolia Petroleum Co. was rigging up standard tools to deepen its old well, No. 1 school land, SE cor. Section 13-1s-9w, with old depth at 2,065 feet.

The Calhana Oil Co. was rigging up rotary tools over an old well, No. 1 McMahan, CWL SW NE SW, Section 18-1s-8w, at 1,750 feet. The Magnolia Petroleum Co.'s No. 8 Edwards, C SW NW, Section 20-1s-8w, was good for 50 bbls. on the pump from sand at 2,320-45 feet. McQueen & Winkler abandoned their No. 2, CSL SW SW NW, Section 34-1s-8w, at 2,200 feet.

In the eastern part of the county, the Magnolia Petroleum Co. had a rig up for its No. 1, C SE SE SW, Section 11-1s-4w.

In Cotton County, J. C. Keys' No. 1 Bondurant, SE cor. Section 23 1s-10w, was an old gas well abandoned at 2,128 feet. The P. & G. Drilling Co. had timbers on the ground for a rotary rig for No. 1-A Bondurant, CSL SE SE SE, same section.

Another Pontotoc County hope fell by the wayside when the Empire Gas & Fuel Co. abandoned its No. 1, SW cor. SE SE, Section 4-2n-7e, as dry at 3,208 feet.

In Tillman County, Luffborough and others abandoned their No. 1 Finley, SW NW, Section 23-2s-17w, was plugged as a failure at 3,200 feet.

In Wagoner County, A. Castleman abandoned his No. 1 Atkins, SW cor. NE NE, Section 13-17-16, as dry at 860 feet. J. L. Slusher also plugged his No. 1 Atkins, SW cor. NW SE, same section, as a failure at 680 feet. Tillman and others abandoned their No. 1 Allen, CSL SE NW SE, Section 15-17-16, at 720 feet.

W. N. Loar's No. 1 Marshall, SE cor. NE NW, Section 24-16 16, was dry and abandoned at 1,620 feet.

In Creek County, Jackson & Wise abandoned their No. 1 McKin, CWL SE NW, Section 11-18-11, as a duster at 2,585 feet.

J. H. Hilt was spudding his No. 1 Maxwell, NE cor. SE, Section 7-16-12. The Riverland Oil Co. was rigging up No. 1-A Maxwell, CEL NE NW, Section 14-16-12.

In Muskogee County, the Hillside Oil & Gas Co.'s No. 1 McDaniels, CSL SE SW, Section 33-16-15, was making 10,000,000 feet of gas from sand at 1,408-19 feet, with total depth at 1,500 feet.

In Okmulgee County, Wheeler & Wilder were spudding their No. 1 Tell, SW cor. SE, Section 5-15-11. The Noble Oil & Gas Co.'s No. 3 Adams, CSL NW SW, Section 20-15-12, was making 2,000,000 feet of gas from sand at 1,120-38 feet. Kellough & Thompson had a rig up for their No. 1 Barnett, SW cor. SE, Section 29-15-11.

Wheeler & Vincent completed a failure in their No. 1 Tiger, SE cor. NW, Section 9-14-11, which was plugged at 3,019 feet.

The Enterprise Oil Co.'s No. 3 Lewis, NE cor. SW NW, Section 36-14-14, an old well drilled deeper, was abandoned as dry at 2,778 feet. W. R. Summerville's No. 1, SW cor. NW NE, Section 28-14-14, made 12 bbls. natural from sand at 1,803-24 feet. The Rosalie Petroleum Co.'s No. 5, CNL NE NW, Section 21-14-14, had a 5-bbl. showing in sand at 1,765 85 feet. F. D. Misener's No. 16 Colbert, CNL NE SW, Section 16-14-14, responded with 15 bbls. after a 100-quart shot in sand at 785-820 feet. The Oklahoma Producing & Refining Corp. abandoned its No. 5 Colbert, C NE SE SW, same section, at 2,710 feet. Kiseler's No. 1-A Berryhill, SW cor. SE SW, Section 19-14-13, was abandoned at 3,055 feet, and his No. 3, C NE SW NW, Section 11-14-13, at 2,585 feet. Becker & Hutchinson's No. 2 Beaver, CEL NE NW, Section 6-14-13, made 4,000,000 feet of gas from sand at 2,003-13 feet. The Mid-Kansas Oil & Gas Co.'s No. 1 Raser, C NW NW NE, Section 5-14-13, was drilling at 300 feet.

Beams & Wilder found dry sand at 2,382-88 feet in their No. 1 Hammond, SE cor. Section 1-12-12, and were preparing to shoot sand at 2,108-75 feet, which contained a 10-bbl. show.

In Muskogee County, the Transcontinental Oil Co. abandoned its No. 1 Folsom, NW cor. SE, Section 12-13-15, an old well drilled deeper, as dry at 2,712 feet. E. C. Robinson's No. 3 Durant, CSL SE NW, Section 27-14-15, made 1,000,000 feet of gas from sand at 704-10 feet.

In Okfuskee County, the Atlantic Oil Producing Co. had a rig up for its No. 1 Watson, NE cor. NW NE, Section 20-12-10.

The Josey Oil Co. was building a rig to deepen its old well, No. 1 Hawkins, C NW NW SE, Section 33-12-11, at 2,710 feet. Same company's No. 2 McCoy, SE cor. NW, same section, swabbed 400 bbls. from sand at 3,703-06 feet.

GULF COAST

HOUSTON, Tex., Oct. 14.—The Vacuum Oil Co. will install a two-unit electrical dehydrating plant to handle the sediment and water in its No. 1 Miller, the discovery well in the new pool, near Lake Charles, La. The Edgerly Petroleum Co.'s No. 2 Vincent, in the Vinton Pool, reported as the regular weekly review as flowing 2,000 bbls. at 3,350 feet, is now believed to be producing from a new deep sand. It is located in the southeast part of the pool.

Southwest Districts

The runs of the Magnolia Petroleum Co. from the Luling Field during September aggregated 325,799.20 bbls., the largest from any Texas field reported by the company. The next on the list is the Electra-Burkburnett district with 206,764.79 bbls. The Wewoka, Okla., field heads the list with 402,392 bbls. The Grayburg Oil Co. has bought the 10-acre Hardeman lease of the Yoakum-Shriner Oil Co., with two producing wells for $35,000.

On the Caldwell County side of the Luling Field, the United North and South Oil Co. is drilling Nos. 9 Moore, 1 and 2 Tiller and has set casing in No. 1 Kelly at 3,000 feet. Casing has been set in 17 Tabor at 2,085 feet. The Grayburg Oil Co.'s No. 11 Tabor is drilling, as is the Caldwell Oil Co.'s No. 6 Hardeman. The Echols Oil Co. set casing at 2,180 feet in No. 2 Fields and Thorman and others did the same in No. 1 Cole at 2,600 feet.

On the Guadalupe County Side, the United North & South Oil Co.'s Nos. 21, 22 and 23 Baker are drilling, also Nos. 10-A Allen and 18 McKean. The J. K. Hughes Co. set casing at 2,050 feet in No. 20 Allen. The Magnolia Petroleum Co.'s No. 11 Schubert is drilling. The Grayburg Oil Co.'s No. 1 Weinert is below 2 000 feet and the Walhunda Oil Co.'s No. 1 Jones around 2,600 feet. Its No. 1 Harris is drilling.

Late completions in the Laredo district include the Magnolia Petroleum Co.'s No. 8 in the Schott Pool, good for 150 bbls. in the light gravity sand at 1,900 feet. It was deepened. The Richmond-Garcia Oil Co.'s No. 7 is a 100-bbl. well and the Carnahan Producing & Refining Co.'s No. 8 is making 75 bbls. Morgan & Gibble's No. 2 in the Caroline

Texas gas district, blew out, throwing a 500-lb. control valve above the derrick. One member of the crew sustained a broken arm, being hit by falling derrick timbers.

In Wilson County, the Plateau Oil Co. abandoned No. 1, near Lavernia, at 3,260 feet, after drilling 100 feet into the Edwards lime. The Plateau & Texas Pacific Coal & Oil Co.'s joint No. 1 Collins, in San Patricio County, has spudded in. It is near No. 1 Miller ranch, a wild gasser that was lost. In Medina County, the Witherspoon Oil Co.'s No. 1, near Devine, set casing on the Edwards lime and will drill in. In Atascosa County, De Lange, Elsor & Co.'s No. 2 Tom ranch set casing at 3,050 feet.

In Bastrop County, the Cardinal Oil Co.'s No. 1 is deepening below 2,000 feet. Frank McDade's No. 1 Valenta is around 1,150 feet and J. W. Gray & Co.'s No. 1 is at 355 feet. Sigler, Fikes & Ragsdale's No. 1 English is rigging. M. A. Curry & Co.'s No. 1 Rundas is a location, as is Lynch and others' No. 1, located 14 miles from Smithville. Houston men are drilling No. 1 Feeytag, north of Flatonia. Fayette County, at 450 feet.

In Bexar County, T. B. Slick's No. 1 Lamm is around 2,780 feet, corrected depth. The Good Oil Co. has started No. 1, 2 miles south of Adkins. It is in a negro graveyard and was spudded in at midnight. The Roxana Petroleum Co. set casing at 2,210 feet in its test in the eastern part of the county.

In Webb County, the A. D. J. Syndicate is rigging No. 1 near Cactus Station on the I. & G. N. Railway. J. H. Hamnill's No. 1 Lowe, in McMullen County, is making 100,000 feet of gas at 635 feet.

U. S. MOTOR GASOLINES HIGHER IN GROUP 3

(Continued from Page 22)

grade at 90 cents with a price range up to 95 cents for interstate shipments and $1 for intrastate movement. The 20-22 gravity sold at 87½ cents with some sales as low as 85 cents reported last week. The 2¾ cents 32-36 gas oil of last week seems to have disappeared and the price level this week was 2⅞ to 3 cents.

Natural Gasolines and Blends

The only price change in the natural gasolines during the past week was confined to Grade C. The demand for that grade is not so strong and manufacturers who had to move their output were generally forced to give ¼ to ½ cent concession under the price levels prevailing a week ago.

Prices on Grades A and B are firm. The Standard Oil Co. of New Jersey was the main buyer of Grade A during the past week. The company is understood to have purchased over 200 cars for prompt delivery. This purchase probably saved the absorption market as did the Humble Oil & Refining Co.'s Sinclair Refining Co.'s and Gulf Refining Co.'s buying earlier in the month. These major refining interests during the past three weeks have purchased more than 1,000 cars of natural gasolines from Mid-Continent manufacturers in addition to their contract purchases. No special weakness in the absorption grades is expected so long as these large buyers stay in the market.

Kerosenes and Distillates

The favorable weather which has brought the increased gasoline consumption also tended to decrease the demand for distillates. A few refiners have been requested to hold up shipments on contracts and the spot market has also been less active. Prices however have not been changed. One of the largest domestic buyers in this field paid 4¾ cents for 41-43 kerosene during the week. A little untreated material is available at 4⅝ cents. Prices on other grades are unchanged.

Lubricating Oils and Wax

The weakest spot in the lub market continues to be the neutrals. No general reduction has been made in price but it is still expected. Manufacturers of cylinder stocks state they cannot afford to lower their prices on steam refined material based on prices obtainable for fuel oil. The buyers however are constantly seeking lower prices. The wax market is unchanged.

PRAIRIE PAYING FOR ALL OIL IT RUNS

(Continued from Page 119)

ment by the Prairie as meaning the bottom has been reached in crude oil prices and that drilling can be resumed at once on a large scale, it is believed conditions rapidly wil become as bad as they were when the storage plan of the Prairie was put into effect.

There probably will be a greater demand for crude during the near future than for some time past as refiners are expected to place orders to fill empty storage on the assumption prices are as low as they will go. When this storage is filled, the demand probably will again slacken and the only way any permanent improvement can be expected is for production to decline materially from its present level.

PUBLICITY PROGRAM IS POSTPONED

(Continued from Page 115)

vanced as to put gasoline beyond the reach of the public generally as a motor fuel. In the year and a half that has elapsed since the report was made, the consumer has been treated to bargains in gasoline he never dreamed of getting. The present price is lower than gasoline has been for 10 years and is 2 and 3 cents under the average price in the prewar year of 1913. Whatever else may be said, the public by this time must have discounted the $1 gasoline myth.

Cheap Gasoline No Bar

Indications are that the consumer will be getting gasoline at lower average levels than have obtained over a considerable period, for some little time. Despite the apparent boon to the consumer and the fact that the industry is facing a serious adjustment by this condition, there are tangible evidences that the industry will continue to be a target for attack. In other words, cheap gasoline and the end of profits for the oil companies, give no guarantee of immunity from continued attack. This fact is of interest in disputing arguments that there might be a political motive behind the recent lowering of gasoline prices, made in the face of the facts of over-supply and over-competition. Gasoline at the present price is selling well under its intrinsic value and it is certainly selling at a loss to the industry, taking the industry as a whole. Just now a lot of refiners are trying to convert stocks into cash at the expense of all of their profits and part of their capital, and the same thing happened last year at this time. The result is that the consumer is profiting at the expense of the petroleum business and getting used to abnormally low gasoline prices.

Many leaders recognize that there is urgent need for the industry to study what has happened during the last two years and to work out some plan of action which will help to guard against repetition of periods of overproduction. Taking the industry as a whole profits have been reduced to a vanishing point in the last two years, The industry is entitled to a reasonable return on its $9,000,000,000 investment and if it does not get such a return it cannot continue to meet the demands made upon it, with consequent serious result to the consumer. The consumer in the long run pays for overproduction and the resulting situation makes it even more burdensome for the industry to explain the causes. Efforts have been made on frequent occasions to get the industry together so far as could be done under the law, on some form of stabilization. In every such instance there has been a lack of unanimity in the attitude of the industry that has frustrated attempts at definite results. The view is held in some circles that unless the industry does manage to right itself under the present free play of the law of supply and demand and that unless the individual companies adjust themselves as regards immediate and future operations to the changed conditions respecting gasoline, the time is not far distant when the Government will attempt some sort of regulation or control.

NEW MARKETING CO. AND EXPORT TERMINAL

The Seaboard Midland Petroleum Corp. has been organized recently with offices in New York City, Cleveland and Tulsa. An export plant and terminal is operated on Baltimore Harbor, Baltimore, Md., by the Seaboard Terminals Corp., for the benefit of the marketing and distributing program of the Seaboard Midland Petroleum Corp. Kermode F. Gill is chairman of both corporations, James H. Foster is president and J. Alex Dingwall, Jr., is vice president and general manager. The new concerns will market crude oil, fuel oil, gasoline, kerosene, lubricants and all petroleum products to both domestic and export trade.

TEXAS CITY SHIPMENTS

TEXAS CITY, Tex., Oct. 11.—September was the banner month for handling oil at Texas City, with a record of 2,742,696 bbls. handled through the port distributed as follows: Exports 586,364 bbls., imports 177 831 bbls., coastwise shipments 1,885,044 bbls., and bunkers 93,457 bbls. The previous high record was in May 1924 with a total of 2,641,891 bbls. The Humble Oil & Refining Co. led in the amount of business with a total of 1,497,574.78 bbls. of oil passing through the port. The Marland Refining Co. led in exporting refined products with 55,387.93 bbls.

LIGHTING OF EXPOSITION A PLEASING FEATURE

One of the pleasing features of the International Petroleum Exposition was the lighting of the grounds at night. This was accomplished largely through the efforts of The Pyle National Co. under the direction of C. T. Tewkesbury. Flood lights were placed at advantageous points in the grounds with the result everything at night was as plainly visible as during the day. When Mr. Tewkesbury happened to notice that there was a shadow across the big blackboard across The Oil and Gas Journal booth where winners in the registration plan were being announced, he immediately had a big flood light installed, which made the whole area as light as day.

McGREGOR

"The Working Barrel that Works"

McGregor Working Barrel

Over fifty thousand now in use from Pennsylvania to Argentine and from Oklahoma to India wherever oil is produced.

No Barrel can compete with the McGregor in price. It comes with the barrel, valves, valve stem all complete at a price slightly more than what the old style Barrel would cost.

The only pulling done when you have a McGregor in use is the rods as the complete Barrel is fastened to the rods and comes out when they are pulled. TUBING PULLING is done away with as far as the Working Barrel is concerned. Use "Mac" Ball and Seat.

See your dealer or write us for circular

McGREGOR WORKING BARREL CO., Inc.
Sole Manufacturers
BRADFORD PENNA.

ARMSTRONG TWIN JAW CHAIN PIPE WRENCH

Points of Excellence

Extra large master bolt.

Alloy steel shackle links.

Two bolt fastening.

Extra large bearing of Jaw on Bar.

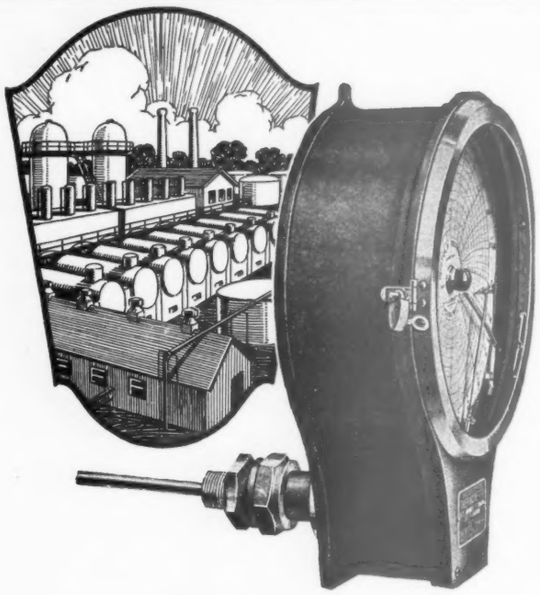
Spreading of jaws prevented by bolt directly below chain socket.

Chain guides aid in adjusting chain. Chain and end bar protected by chain guide.

PROOF TESTED

ARMSTRONG BROS. TOOL CO.
828 No. Francisco Ave.
CHICAGO, U. S. A.
Write for free catalog

Structure Drilling
Contractors With
The Diamond Core Drill
Wire or write us your wants.
Diamond Drilling & Exploration Co.
Pittsburgh, Pa.



Rugged Simplicity—

BRISTOL Instruments

reveal this unfailing character of American Greatness

In its mechanical products, as well as in its men, America places its approval most positively on those that do the work dependably, no matter what adverse conditions may prevail.

Bristol's instruments are world-famed for uniting precision with a ruggedness and simplicity that puts break-downs and maintenance expense right down to the practically irreducible minimum.

Engineers in refinery, field, and pipe line work have learned from plenty of experience that Bristol instruments are the most reliable and sturdy for recording measurements of pressure, temperature, liquid level, motion and electricity.

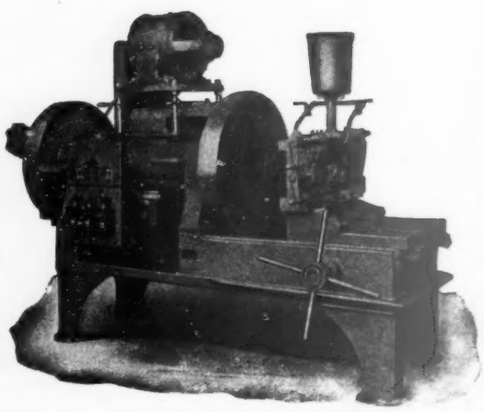
Full details of Bristol instrument capacity for serving you will be supplied gladly, without obligation, by the Bristol office nearest you.

THE BRISTOL COMPANY, Waterbury, Conn.

Branch Offices:

Boston New York Pittsburgh Detroit Chicago St. Louis San Francisco

Pipe Cutting and Threading Machinery



The oil business is one of heavy duty therefore requires heavy duty machines. We have them.

Sizes up to and including 24"

Belt, Motor or Steam Engine Driven
Also
Equipped for Gasoline Engine Drive

THE COX & SONS COMPANY
BRIDGETON, NEW JERSEY
Business Established 1868

PUBLIC'S INVESTMENT IN MOTOR VEHICLES

(Continued from Page 21)

factories with a capital investment of $230,000,000—a total of 399 factories and a capital investment of $1,015,000,000.

In 1923 there were 90 automobile and 147 truck factories—a total of 237—with a capital investment of $1,572,000,000.

In this connection it is interesting to note that in 1919, by including parts and accessories factories with the car and truck factories, the total capital investment was $1,802,000,000, which means that about $800,000,000 were invested in factories making parts and accessories.

The car and truck factories employed 300,000 people and paid out $375,000,000 in wages and salaries. The parts and accessories factories employed 351,000 people and paid out $439,000,000 in wages and salaries.

In 1923 wages and salaries in car and truck factories totaled $579,000,000, the number of employes not being available. However, in 1922 there were 253,104 employes with a payroll of $396,000,000.

In this connection the fact is outstanding, and very significant, that while in 1923 the manufacturers made more than twice as many cars and trucks as in 1919—and for $350,000,000 less wholesale value—the employes received more than 50 per cent more in wages and salaries in 1923 than 1919.

In the last five years the cars owned by farmers have increased from 2,366,000 to 4,100,000—or almost double. The number of trucks on farms has increased from 100,000 to 400,000. The farmer today owns practically 30 per cent of the cars and trucks in the United States.

The year 1921 was the "deflation" year that followed the close of the World War and the impact with which the reaction hit the motor vehicle industry is clearly indicated by the figures for that year as compared with the figures for the two preceding years and the two succeeding years.

Taking the items, cars manufactured, with value, trucks manufactured, with value, parts and accessories, replacement tires, employes, salaries and total casings made, one sees how seriously the depression of 1921 affected the motor vehicle industry—and that 1923 saw it practically recovered.

Retail Sales Organization

In analyzing the retail sales organization one notes a decrease of over 18,000 in the number of dealers in 1921 compared with 1920—and that in 1923 there were 7,000 fewer dealers than in 1919, although there were more than twice as many cars and trucks manufactured and sold.

This basic change in the distribution of cars and trucks is not reflected in the number of garages, repair and service stations, charging stations and supply dealers—and back of these figures is a vital story in distribution.

That for almost the first 20 years of the motor vehicle industry the dealer sales organization was very largely a "hit-and-miss" proposition, and on the whole decidedly unsatisfactory, is a matter of common knowledge both within and without the industry. The car and truck factories were too busy with engineering, production, financing and other problems to give very much attention to the building of sales organizations.

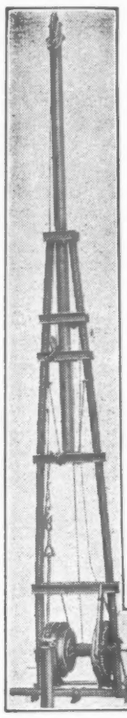
With the great bulk of the dealers unintegrated, it is only natural that conditions would develop "on the territory" that conflicted with the best interests of the manufacturers—with the result that as the manufacturers' problems were slowly worked out they found time to take over into their own hands the direction, if not the absolute control, of the sale of the products that they made. That this new sales policy is becoming more definitely and more constructively effective is also a matter of common knowledge, both within and without the industry.

To a very great extent supply dealers and owners of garages, repair shops,

The Iron Boss

Pulling Machine

MAXIMUM STRENGTH
MINIMUM WEIGHT
DOUBLE OR SINGLE BRAKE



Mounted on Two or Four Wheel Trucks

We also Manufacture the Improved Wood Boss, made in four sizes, either 2 or 4 wheel trucks, soft laid guy lines on all machines, guy line chains, double or single brakes. A size for each territory, the lightest and easiest operated machines on the market. Fully guaranteed.

For sale by All Supply Stores, or Write us for descriptive literature and further information.

The Boss Mfg. & Supply Co.
Van Buren, Indiana, U. S. A.

OIL MAPS

TEXAS-OKLAHOMA DISTRICT

CATALOG ON REQUEST

HEYDRICK MAPPING COMPANY
Wichita Falls, Texas

Northern Oil Information Bureau
Shelby, Montana

Complete weekly drilling and operating report of Kevin-Sunburst field mailed to any address, $10 for four reports. Maps and logs for sale. Best of references.

We maintain a geological, land and field departments, all in expert hands

GURLEY

The Oil Man's Standard in
ENGINEERING INSTRUMENTS
Since 1845
W. & L. E. GURLEY Troy, N.Y.

BAKER
CASING SHOE CO.
Box 264 F Huntington Park Sta.
LOS ANGELES, CALIF., and
Box 239 F COALINGA, CALIF.
MANUFACTURERS AND DEALERS
Oil Well Specialties
for Advanced Methods
Practical and Dependable

BAKER
Anchor Wall Packers
Baker Casing Shoes
Bridge Builders
Cement Retainers
Cement Plugs
Clean-Out Bailers
Dump Bailers
Die Nipples | Water
Die Collars | Tight
Gas Traps
Hinged Spiders
Heaving Plugs
Pitman Ends
Plain Casing Shoes
Regular Hook Wall Packers
Release Hook Wall Packers
Rotary Bits | Baker Type
Rotary Hole Guides
Rotary Shoes
Rotary Tool Joints
Rotary Wall Hooks
Split Shoe Guides

All Supply Houses or Direct

Be Sure

to thoroughly read the Table of Contents every week. It will enable you to derive the greatest measure of benefit from your Journal.

WESTERN BANK SUPPLY CO.
Manufacturing Stationers
High-Grade Office Furniture
Filing Cabinets—Safes
Log Books—Township Plats—All Standard Forms
Lithographing Embossing
Engraving Printing
"THE HOUSE OF QUALITY"
117 West Main St. OKLAHOMA CITY
4th and Boston TULSA, OKLA.

Capital Abstract & Realty Co.
W. S. Bell L. B. Norton
J. F. Patterson
Okmulgee, Okla.

DAWSON TOWEL SUPPLY
Aprons, Towels, Jackets for Rent
Towel Service for Office $1.50 Mo.
Phone 2185 Tulsa, Okla.

Dickey-Ashby-Fountain Co.
General Insurance
Derricks, Tanks and Contents Insured
1114 Atlas Life Bldg., Tulsa, Okla

GEO. W. HENRY, Printer
"Better Printing"
Phone O-238
510 S. Elgin Tulsa, Okla

LAFE SPEER ABSTRACT CO
General Abstractors
J. A. Boyd, Pres. and Mgr.
11 S. Park St. Sapulpa, Okla

SAND SPRINGS WATER CO.
Pure Spring Water
Distilled
Phone Osage 700 Tulsa, Okla

Place your order for Ice with the
TULSA ICE CO.
Phone 12, 4 N. Detroit, Tulsa, Okla.

service stations and charging stations have no interest in the motor-vehicle industry other than the shops and stores that they operate. Their interest is entirely personal and individual, and in almost every instance limited to their own business. On the other hand the manufacturers have investments aggregating billions of dollars and their success lies in the basic stability of the industry as a whole.

Concentrated Distribution

The concentration of the distribution of cars and trucks in the hands of fewer dealers than there were five years ago, and the close, constructive cooperation of the manufacturer with the dealer, whether he be a factory representative or an "independent" dealer with a contract relationship, is one of the greatest outstanding facts in the new policy of distributing cars and trucks.

The manufacturers' "point of contact" with the public is so vital that they can't afford to take chances with uncontrolled, undirected sales organizations.

The dealer stands closest to the car and truck manufacturer—the owner of a garage, repair shop, service station, charging station or supply store stands closest to the public. One looks to the maker of the car—the other looks to the owner of the car. And this does not mean that the manufacturers and dealers have not a vital interest in the service that the car gets after it leaves their hands—or that the service people have no interest aside from "rendering a service for a price."

Today the average dealer is a closely integrated, cohesive part of the motor vehicle industry. The time has definitely passed when Tom, Dick and Harry can get an agency to sell cars and trucks—and the industry has been greatly stabilized by the manufacturers' controlling the distribution of their product until it gets into the hands of the public.

The people who render service to the public through garages, repair shops, service stations, charging stations and the sale of supplies are much less closely integrated with the industry—are almost entirely uncohesive—and are much more liable to be influenced by the changing condition in their own individual business than they are by the general condition of the motor vehicle industry as a whole. Their own business is direct, immediate and personal— and the way they conduct it is determined largely by their own personal needs and local conditions. To them the "motor vehicle industry" is distant, and impersonal, as compared with their customers with whom they are in constant contact.

Capital Investment

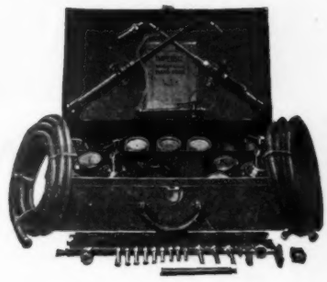
In Table 1 the capital investment of the 237 car and truck manufacturers—$1,572,000,000—by no means represents the total "physical assets" of these manufacturers. It is altogether probable that these 237 car and truck makers have physical assets of several billion dollars—and this amount, huge as it is, by no means represents all of the tangible assets of the motor vehicle indutsry. In 1923 the car and truck manufacturers brought 63 per cent of the wholesale value of their total output—and furnished the remaining 37 per cent themselves.

The 63 per cent that they purchased came from several hundred manufacturers of parts, units and accessories and went into the construction of the 4,086,997 new cars and trucks that were made in 1923. It did not include either repair parts or tire replacements which amounted to $800,000,000 at wholesale prices.

It is therefore obvious that if 37 per cent of the wholesale value of the cars and trucks was furnished by the 237 motor vehicle manufacturers with capital assets of $1,572,000,000, then the capital assets of the several hundred manufacturers of parts and accessories, who together furnished 63 per cent of the total value, was probably equal to if not greater than the car and truck manufacturers. It is a physical impossibility to segregate from the total assets of these hundreds of manufacturers of parts and accessories the prorate part of their total investment that, from

Imperial Outfit No. 5

The most flexible, practical outfit ever developed for oil field work. Will handle any kind of welding work, and its cutting ability is limited only by the process itself.



IMPERIAL WELDING AND CUTTING OUTFIT

Especially Adapted for Oil Field Work

With this one Imperial outfit, you can handle practically any job—from light sheet metal to heavy work on oil rigs. For every requirement, whether it is making a bailer, welding a flange on a tank, or making special pipe connections and joints, it's the handiest, most efficient and most economical outfit you can use. It stands up, too, under the severest service.

Imperial acetylene generators, portable and stationary types, save five to ten cents per cubic foot of gas. Do away with express charges, long hauls, and expensive delays in receiving cylinders.

Write for complete catalog and prices

IMPERIAL BRASS MFG. CO.
517 S. Racine Ave., Chicago, Ill.

M429

Don't Wait

Renew your subscription to The Oil and Gas Journal this week.

Then you will be absolutely sure of receiving the two International Petroleum Congress issues.

Do It At Once

NATIONAL AIROIL BURNER

Hundreds of AIROIL BURNERS
"are giving complete satisfaction daily"

Send for Booklets entitled
"Oil Burning Efficiency" and "Oil Burning in Power Plants"

National Airoil Burner Company
922 Thompson Street—Philadelphia, Pa.

Stanley Belting

The Rough Necks' Belt

There is no keener judge of belting on earth than the Rough Neck—and when he says "Stanley" he means "good belt." Write it in your specifications by *name*.

STANLEY BELTING CORPORATION

15 North Jefferson, Chicago, Ill.
320 Broadway, Room 1317, New York, N. Y.
T. R. Bartlett, P. O. Box 909, Tulsa, Phone Cedar 4088R.
Pacific Coast Rubber Co.
316 Mission St., San Francisco, Cal.
Mountain States Rubber Co., 1238 Broadway, Denver, Colo.
On permanent display at Tulsa Industrial exhibition

Shaffer Water Gauge

FOR YOUR "BOILER'S SAKE," USE THE BEST

"The babbitt wheel seat, shuts off without a leak." A product of our thirty years' experience in the oil business—it's the best gauge we know how to make. The Shaffer gauge is made with a babbitt wheel containing fifteen different seats—to change the seat, simply loosen the nut and turn the wheel to another seat. This can be done in ten seconds under full steam. Buy a set of Shaffer gauges from your supply store and you'll wonder how you ever got along without them.

Price $2.25 Each

J. E. SHAFFER COMPANY

315-316 Mid-Continent Bldg. Tulsa, Okla.

LET
UNCLE SAM
DO IT!

Just fill in the coupon and the postman will deliver your Journal every week. It's the most convenient way.

The Oil and Gas Journal

Tulsa, Okla.

You are hereby directed to mail The Oil and Gas Journal to me for.....year. Enclosed find remittance $.....

Classify my interests as checked by me.

.....Producing ..... Refining
.....Equipment ..... Marketing

Name.....
Address.....
City.....

$6 a Year
$3 6 Months

a productive standpoint, is properly a part of the motor vehicle industry. It is, however, the consensus of opinion of some of the best informed men in the industry that the "physical assets" of the manufacturers of cars and trucks, of parts and accessories and of tires runs into several billion dollars.

To this huge sum must be added the investment in real estate, buildings, equipment, etc., for the more than 90,000 dealers, garages, repair shops, service and charging stations, for these are all integral parts of the motor vehicle industry and their aggregate investment runs into hundreds of millions of dollars.

Value of Existing Cars

Turning to Table 2 you will note that at the close of 1922 there were registered in the United States 12,239,114 cars and trucks. Placing a conservative average valuation of $400 each on the cars and $750 each on the trucks would give an aggregate of $5 300,000,000 for the cars and trucks in the hands of the public at the beginning of 1923.

During the year 1923 the public spent $2,575,100,000 for cars and $410,600,000 for trucks, according to estimates made by the Automobile Trade Journal and used by the National Automobile Chamber of Commerce. Adding this $2,985,000,000 to the $5,300,000,000 and deducting $100,000,000 for the cars scrapped duirng the year gives a total of slightly over $8,000 000,000 worth of cars and trucks on hand at the close of 1923.

In proof of the ultra-conservatism of this valuation of $8 000,000,000 we find, by referring to Table 1, that in the last five years the factories have turned out, at wholesale prices, over $9,000,000,000 worth of cars and trucks, which at retail prices would run well over $11,000,000,000. In the same five years we have made for domestic use about 12,000,000 cars and trucks, or about 3,000,000 less than the total registration at the close of 1923. Therefore approximately 12 of the 15,000,000 cars registered last year were five years old, or less—and the remaining 3,000,000 were over five years old.

As 12,000,000 cars out of our total registration were made in the last five years, and cost, at retail, about $11,000 000,000, it is obvious that a valuation of $5,300,000,000 for the entire 15,000,000 cars and trucks on hand at the close of 1923, is more than conservative.

During the year 1923 the American public paid $1,326 200,000 for gasoline and lubricating oil, $714,600,000 for tires, $251,500,000 for accessories and $655,400,000 for replacements—a grand total of $2,947,700 000.

No estimate has been included for the amounts paid for garage and space rentals, washing and painting and insurance which, in the aggregate, would total probably two or three hundred million dollars.

During the year 1923 the public also paid $155 800,000 for Federal excise taxes—$36 814,000 for State gasoline taxes—$188,948,000 for State registration and license fees, $1,907,000 for Federal taxes on motor vehicles used for hire and $75,000,000 as personal property taxes on motor vehicles—a total of $458 469,000 for National and State taxes and licenses.

Adding the upkeep to the taxes gives a grand total of over $3,400 000,000 for the year 1923—and we can fairly assume that $8,000,000,000 would be a conservative valuation for a "transportation system" whose ownership and maintenance were costing $3,400,000,000 a year.

Estimate for 1924

It has been estimated that at the close of 1924 the registration of cars and trucks will be slightly less than 18,000,000, based on the manufacture of about 4,000,000 vehicles with 250,000 exported and 1,000,000 scrapped—a net gain of about 2,750,000 during the year. These 3,750,000 new cars and trucks thrown into domestic use will cost their purchasers at retail at least $2,500,000,000—and it is only fair to assume that at the close of the year 1924 the public's

F. W. FREEBORN
ENGINEERING
CORPORATION
ENGINEERS, APPRAISERS, CONSTRUCTORS, MANAGERS
For
Oil and Industrial Properties, Valuations for Income Tax, Re-organization, Re-financing and Mergers
General Offices: Mayo Bldg. TULSA, OKLAHOMA

DEAN E. WINCHESTER
GEOLOGIST
Petroleum and Oil Shale Examinations
400-401 Steel Bldg. DENVER, COLO.

L. G. Huntley Stirling Huntley
HUNTLEY & HUNTLEY
PETROLEUM GEOLOGISTS AND ENGINEERS
Frick Building, PITTSBURGH, PA

HARRY F. WRIGHT
GEOLOGIST
Geological Examinations
Valuations for Tax and Financing
206 So. Cheyenne TULSA

JOHN B. KERR
PETROLEUM GEOLOGIST
Phone Garfield 4734
601 Balboa Bldg.
San Francisco, Calif.

Free Mailing Lists
Will help you increase sales. Send for FREE catalog giving counties and prices on classifications of profitable prospective customers. National, State, Local—Business, Professions, Business Firms.
99% Guaranteed by refund at 5¢ each
ROSS-Gould Co. 10th St. St. Louis

I SPECIALIZE IN OIL WELL
PATENTS
Geo. H. Myers, 503 Petroleum Bldg., Tulsa, is my oil field technical associate. Prompt service. Reasonable fees.
I. G. Quesada, Reg. Patent Atty., Barrister Bldg., Washington

F. B. Porter, B.S., Ch. E., President
R. H. Fash, B.S., Vice President
THE FORT WORTH LABORATORIES
Field gas testing. Analyses of oil field brines, gas, minerals and oil
823½ Monroe St., Fort Worth, Texas

WRITE FOR OUR FREE BOOK ON
PATENTS
MUNN & CO.
631 Woolworth Building New York
Scientific American Bldg., Washington, D.C.
Tower Building Chicago, Ill.
Hobart Building San Francisco, Cal.

PATENTS OBTAINED FOR INVENTORS
JACK A. SCHLEY
U.S. PATENT ATTORNEY
305 INTERURBAN BLDG., DALLAS

W. G. MATTESON
CONSULTING GEOLOGIST
Specialist examinations and appraisals Mid-Continent and Gulf Coast Oil Properties
314 Texas State Bank Bldg. Fort Worth, Texas
Box 471, G. P. O., New York City

F. JULIUS FOHS
OIL GEOLOGIST
1320 Kirby Bldg., Dallas, Tex.
First Natl. Bank Bldg., Tulsa, Okla.
and 60 Broadway, New York
Cables: Fohsoil, Bentley & McNeil Codes
No professional work undertaken

William H. Foster W. A. Reiter
FOSTER & REITER
CONSULTING GEOLOGISTS
19th Floor, Magnolia Bldg., Dallas
Atlas Life Bldg., Tulsa

WALTER STALDER
OIL GEOLOGIST
Crocker Bldg.
SAN FRANCISCO, CALIF.

FRANK C. GREENE
CONSULTING GEOLOGIST
604 Exchange Natl. Bank Bldg.
Tulsa, Okla.
Office Phone Osage 7683
Residence Phone Osage 2876

V. H. McNUTT
CONSULTING GEOLOGIST AND APPRAISER
Specialising in Northern Oklahoma and Southern Kansas Fields
TULSA, OKLA.
Rooms 404-405 Commercial Bldg.

C. W. WASHBURNE
GEOLOGIST
2 Rector Street New York

E. J. LONGYEAR CO.
MINING ENGINEERS AND GEOLOGISTS
Diamond Core Drill Manufacturers
Diamond Drilling Contractors
MINNEAPOLIS, MINN.

EDWIN B. HOPKINS
CONSULTING GEOLOGIST
26 Broadway
NEW YORK

W. L. GOMORY
CHEMICAL ENGINEER
Consulting Petroleum Technologist
INVENTOR GOMORY CRACKING PROCESS
Licenses Solicited
Refinery Design
Peoples Gas Building Chicago

ROBERT W. CLARK
CONSULTING GEOLOGIST AND APPRAISER
Depletions and Reserves for Income Tax
217 Commerce Bldg.
OKMULGEE OKLA.

"investment" in cars and trucks will be at least $10,000,000,000.

On the basis of the increase in registration in 1924 over 1923 the gasoline and lubricating oil for 1924 will cost $1,550,000,000—tires $825,000,000—accessories $300,000,000 and replacements $775,000,000—a total of $3,450,000,000 for the year.

The Federal excise tax will amount to approximately $180,000,000—the State gasoline tax to $75,000,000, or more—the State registration and license to $225,000,000—with $90,000,000 for the Federal tax on motor vehicles used for hire and the State personal property tax. This gives a total of $570,000,000 for Federal and State taxes and licenses on cars and trucks in the hands of the public. Adding this total to the $3,450,000,000 for "upkeep" gives a grand total of over $4,000,000,000 for 1924—and even this huge sum is too small by a few hundrd million dollars because of the omission of such items as insurance, garage and space rentals, washing and painting, etc.

Dividing this $4,000,000,000 by the estimated registration, $17,840,000, gives an average upkeep and tax charge of close to $225 for each car and truck in the United States for the year 1924.

In 1922 the operating revenue of all of the Class 1 railroads in the United States, including the income from the hauling of pasengers, freight, mail, express, all other items and incidentals was $5,617,000,000—and we began building railroads 90 years ago.

Personal Transportation

Yet, in the last 25 years, the automobile and motor truck have become so popular, as an individualized factor in transportation, that the public has piled up a fixed investment in this new form of "personal ownership" transportation of at least $10,000,000,000—and is paying $4,000,000,000 this year to keep it running.

The petroleum industry's "best customer" is the automobile and the motor truck. Its future is vitally dependent on their performance and expansion.

And when some newer, more flexible and speedier type of transportation divides the field with the automobile and the motor truck, as they are today dividing the transportation field with the railroads, it is almost absolutely certain that the petroleum industry will have found another good customer.

EL DORADO CASINGHEAD

EL DORADO, Ark., Oct. 13.—Development of the casinghead gas industry has resulted in the construction of eight plants in the El Dorado district, having an aggregate capacity of 59,900 gallons a day. The plants are owned and operated as follows:

	No. of Plants	Dy. Prod. Gallons
Standard Oil Co. of La.	1	30,000
F. C. Henderson	1	12,000
Stebbins Oil & Gas Co.	1	2,000
Natural Gas & Pet. Co.	2	10,000
Gulf Refining Co.	2	3,900
R. L. Crook	1	2,000
Total	8	59,900

J. S. SIDWELL RESIGNS

J. S. Sidwell, vice president and general manager of the Transcontinental Oil Co., with offices in Tulsa, has resigned to go into business for himself. L. B. McCannon, of Pittsburgh, Pa., succeeds him as active head of the Transcontinental interests in the Mid-Continent.

PAN AMERICAN LEASE SUIT

LOS ANGELES, Cal., Oct. 13.—Trial of suit against Pan American, brought by the United States Attorney General to cancel leases in Elk Hills, has been set for October 20 here. This action is separate from that brought by special Government counsel, and attacks leases made to protect from offset drilling of companies holding lands outside Reserve No. 1.

DIXON'S
Silica-Graphite Paint

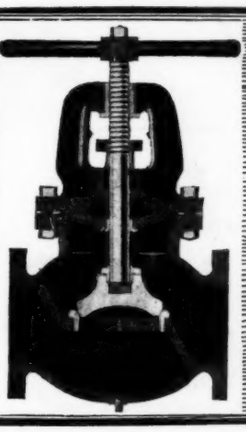
is immune from attacks by acids, alkalies, gases and fumes. Impervious to water and not affected by heat or cold.

It dries into a smooth elastic surface and lasts for long periods of time because of the pigment, flake silica-graphite and the vehicle, pure boiled linseed oil.

Dixon's is a paint in which the flake graphite and silica are **naturally** and not artificially combined, and this feature is essential to long life, efficient surface protection, elasticity and resistance to dampness.

Write for Booklet No. 188-B.

JOSEPH DIXON CRUCIBLE COMPANY
Jersey City, New Jersey
Established 1827



EDWARD

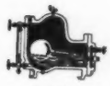
Built especially for oil refinery work—will withstand high temperature and pressure in cracking plants.

Standard equipment in some of the larger refineries in the country.

For detailed information write for new catalog.

The Edward Valve & Mfg. Co.
East Chicago, Ind.

VALVES

Reform Dial Thermometer

Ideal Steam Trap

Gauge Tester

"Columbia" Gauge

American S & B Instruments
reduce manufacturing costs, eliminate spoilage and increase efficiency. They are the result of over 70 years' experience in solving problems of temperature, pressure, speed, etc.
Write for Text Book N-5

American Schaeffer & Budenberg Corpn.
Succeeding
The Schaeffer & Budenberg Mfg. Co.
American Steam Gauge & Valve Mfg. Co.
Hohmann-Nelson Company
BROOKLYN, N. Y.
Boston Cleveland Tulsa Salt Lake
Buffalo Detroit Philadelphia City
Chicago Los Angeles Pittsburgh Seattle

CARBON (BLACK DIAMONDS)
FOR DIAMOND CORE DRILLS
IMPORTERS
INDUSTRIAL DIAMONDS
MANUFACTURERS
DIAMOND POINTED TOOLS FOR ALL MECHANICAL PURPOSES
WRITE OR WIRE FOR CATALOGUE AND FULL PARTICULARS
THE DIAMOND DRILL CARBON CO.
[illegible] PARK ROW, NEW YORK, N.Y. CABLE ADDRESS, CREGOTAN, N.Y.

YOU CAN'T BREAK THE U. S. A.

despite all the ravings of the "Reds," but you are breaking your machinery and metal parts all the time. Our efficient welding and machining methods will cure all those breaks and restore your machinery to first class condition.

GENERAL GEAR AND MACHINE WORKS
115 So. Detroit Ave.
Tulsa, Oklahoma
Phone O-9482

STEEL

for Immediate Shipment from Stock

Bars, Plates, Rivets, Tool Steel, Shapes, Sheets, Bolts, Welding Rods, Structurals, Tubes, Wire, Concrete Reinforcing, Rails, Pipe, Turnbuckles, Small Tools, etc.

Write for Ryerson Journal and Stock List

JOSEPH T. RYERSON & SON INC.

CHICAGO
ST. LOUIS
CINCINNATI

TULSA OFFICE—418 ATLAS LIFE BLDG.
HOUSTON OFFICE—220 MAIN ST.

DETROIT
BUFFALO
NEW YORK

CAST STEEL FITTINGS

for Higher Pressures

READING

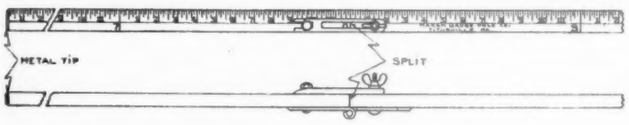
READING STEEL CASTING COMPANY, INC.

Reading Valve & Fittings Division, Bridgeport, Conn.

Stocked by: Norvell-Wilder Hardware Company, Beaumont, Houston, Mildred and Shreveport. Grinnell Co. of the Pacific, Los Angeles, Cal.

GAUGE POLES

Any Length **For Oil Measurements**



"MARSH-JOINT"

For sale by oil country supply houses or furnished promptly by the factory at Titusville, Pa.

Correspondence Solicited

MARSH GAUGE POLE COMPANY
TITUSVILLE, PA

HAVANA

DOUBLE GRIP— Friction Clutch

A double grip friction clutch — simple, durable and easily attached.

"Too tough to break." Satisfaction guaranteed.

Made to fit all Gasoline and Kerosene Engines.

Sizes 1½ H. P. and up. When others fail try the Havana. Handled by all leading jobbers.

HAVANA MANUFACTURING CO.

117 N. Pear St. Havana, Ill.

FUEL OIL SALES OFFSET LOSSES IN GASOLINE

(Continued from Page 28)

have sold their gasoline at a sacrifice, thus reducing their stocks as much as possible while curtailing production, and at the same time have developed a larger market for their heavier products.

Seaboard refineries have undoubtedly benefited most from the situation. The consumption of fuel oil in land and marine installations has been greater than even they had expected, and they are pressing the development of domestic oil heating, which will doubtless make great strides during the coming winter. Of course, all seaboard refiners have not been able to derive benefit from the higher prices for fuel oil because they have found it difficult to obtain heavy oil on advantageous terms.

California and Mexico

The fuel oil produced in Atlantic Coast refineries is said to be derived about 50 per cent from California oil and 50 per cent from Mexican oil. The latter, largely Panuco crude, is too heavy to be used alone, and the lighter fuel oil, from California crude, is mixed with it. Some Atlantic Coast refiners are said to have purchased both California and Mexican crude and fuel oil on contract on advantageous terms, while others have had to make contracts more recently at considerably higher prices.

With the supply of both Mexican crude and California crude uncertain as regards its availability to Atlantic Seaboard refiners, especially as the latter have contracts ending about January 1—the problem of making new contracts at equally advantageous prices is a pressing one. The difficulty is that a further advance in fuel oil prices would doubtless restrict consumption of that product wherever it competes with coal. For this reason, refiners do not feel that they can pay higher prices for heavy crude or fuel oil under new contracts.

Gasoline Versus Fuel Oil

The situation which has developed out of a surplus of gasoline and relative scarcity of fuel oil brings up one of the most important problems which the oil industry is likely to be called upon to face during the next couple of years. Many believe crude petroleum should not be "wasted" as fuel oil where coal can be used, as there is said to be an unlimited supply of coal, while the supply of oil, if not limited, is at least not as "visible" as that of coal, and the means of recovery of oil less certain.

On the other hand, the oil industry is right in developing other sales branches when one on which it has been depending breaks down. If the industry could obtain sufficient profit from gasoline alone, it would not have to develop markets for other products. Furthermore, fuel oil is a product resulting from refining processes necessary to the recovery of gasoline, and will always be present in certain quantities whether the industry wants it or not.

Gasoline Basic Product

Gasoline, in the view of many leaders in the oil industry, is logically the basic product of crude petroleum, and the chief problem lies not in the development of markets for other products, but in getting an equitable price for that. The entire motor vehicle industry, one of the most important transportation units in the world, is dependent upon gasoline. So is aviation.

Of course that is a problem for the future. Gasoline is plentiful now, and is relatively cheap. Oil refiners cannot wait indefinitely for the time gasoline is scarce and the price higher. Their business is to make money each year in order that they may continue to exist. That is why they have in many instances turned to the development of sales of fuel oil on a large scale.

Other possibilities bearing on the future need for gasoline are those of the development of a substitute, or the development of a carburetor which will burn relatively less on a given amount of mileage.

JOHN L. RICH
PETROLEUM GEOLOGIST
Special service in tracing of "thin string" oil and gas pools
OTTAWA, KANSAS

J. ELMER THOMAS
CONSULTING GEOLOGIST
751 First National Bank Bldg.
CHICAGO, ILL.

FREDERICK G. CLAPP
Consulting Geologist and Petroleum Engineer
30 Church St., New York City

ROSWELL H. JOHNSON
GEOLOGIST AND APPRAISER
Oil and Gas Bldg.
University of Pittsburgh
PITTSBURGH, PA.

Robert H. Wood Virgil O. Wood
WOOD & WOOD
GEOLOGISTS AND PETROLEUM ENGINEERS
Phone Cedar 1725
302 Commercial Bldg
TULSA, OKLA.

CARL B. ANDERSON
GEOLOGIST AND PETROLEUM ENGINEER
804 Kennedy Bldg.
TULSA, OKLA.

CHARLES T. KIRK
CONSULTING GEOLOGIST
American and Foreign Fields
Osage 2820, 9504
Suite 523 Mayo Bldg.
TULSA, OKLA.

Appraisals Income Tax Service
SAMUEL J. CAUDILL
PETROLEUM ENGINEER
Tulsa 1016 Atlas Bldg. Los Angeles 916 Bartlett Bldg.

Wilbur E. Brown G. Thomsen, Jr.
BROWN & THOMSEN
GEOLOGISTS
419 West Grand Ave.
OKLAHOMA CITY, OKLA.

H. H. MESSIMER
TANK GAUGING ENGINEER
Prompt, Efficient Tank Table Service
Prices Reasonable
P. O. Box 257 105 Midco Bldg.
Phone Osage 3142
TULSA, OKLA.

BERNARD H. LASKY
PETROLEUM ENGINEER AND GEOLOGIST
Appraisals and Valuations for Financial Purposes
Geological Reports
Special Economic Investigations
208 Tuloma Bldg. TULSA, OKLA

BROKAW, DIXON, GARNER & McKEE
GEOLOGISTS
PETROLEUM ENGINEERS
Examinations, Appraisals
Estimates of Oil Reserves
120 Broadway New York

Amil A. Anderson Frank B. Anderson
ANDERSON & ANDERSON
Mining Engineers and Petroleum Geologists
304 Bitting Building
Wichita, Kans.
Telephone Market 2887

ROBERT W. HUNT CO
Inspecting and Testing Engineers
Inspection of Oil Line Pipe, Oil Well Casing, Tanks, Drums and Barrels
Inspection During Manufacture
Resident Inspectors at Pipe and Steel Mills
2200 Insurance Exchg., Chicago

H. H. HOOD
PETROLEUM ENGINEER AND GEOLOGIST
Explorations, Surveys, Appraisals, Audits, Consultations, Management
1310 Chemical Bldg., St. Louis, Mo.
1839 McCormick Bldg., Chicago

IRVINE E. STEWART
GEOLOGIST
Great Falls, Montana
421 Ford Building
Denver, Colorado
420 Patterson Building

HEATH M. ROBINSON
GEOLOGIST
804 American Exchange Bank Bldg.
DALLAS, TEXAS
Telephone X2738

GEO. C. MATSON
PETROLEUM GEOLOGIST AND ENGINEER
Geological Surveys, Appraisals for Taxation or Financing
Osage 2049—Phones—Osage 1233
408 Cosden Bldg. TULSA, OKLA.

Frank A. Herald John M. Herald
HERALD BROTHERS
GEOLOGISTS
PETROLEUM ENGINEERS
801 Cosden Bldg. Phone Cedar 5333
TULSA, OKLAHOMA

L. S. PANYITY
Petroleum Geologist
Valuation Engineer
61 Main Street
Bradford, Pa.

JAMES O. LEWIS
PETROLEUM ENGINEER AND GEOLOGIST
724 Kennedy Bldg. Tulsa, Okla.

DEWITT T. RING
PETROLEUM GEOLOGIST
El Dorado, Ark.
805 Electric Bldg. Buffalo, N. Y.

Kentucky Production Tax Is Invalidated; Refund to Be Made

FRANKFORT, Ky., Oct. 11.—The 1 per cent oil production tax has been declared unconstitutional by Judge Ben G. Williams, of the State Fiscal Court.

In his holdings, Judge Williams isssued a writ of mandamous directing W. H. Shanks, State auditor, to draw a warrant upon E. B. Dishman, State treasurer, in favor of the master commissioner and receiver of the Franklin Circuit Court for $318,789.60, the aggregate amount of taxes collected and paid into the treasury by all the transporters of crude petroleum in Kentucky, with one exception, during the two years preceding filing, April 11, 1924, of the test suit.

The one exception was the Swiss Oil Corp., Lexington, which filed the suit in behalf of oil companies in the State. The writ of mandamus also directed the auditor to issue his warrant on the treasury to refund to the corporation $8,944.64 taxes paid during the same period.

The act invalidated by the decision was approved March 29, 1918, when it went into effect. Under it the Swiss Oil Corp. and other producers of crude oil in Kentucky have been required to pay monthly to the State tax commission a tax for State purposes of 1 per cent of the value of all crude oil transported from the place of production.

Attorney General Frank E. Daugherty, representing Mr. Shanks, said he will appeal the case to the Court of Appeals. He demurred to the petition to the original pleadings.

The Kentucky Oil Men's Association made an arrangement with the attorneys who brought the suit to represent and recover for such producers as cared to avail themselves of such arrangement, and a number of such producers have so filed their claims through Thomas S. Scott, secretary of the association.

It is pointed out that the law under which such recovery can be had, it is only allowed as to taxes paid into the State within two years prior to application for such refund, and that in order to stop the running of this limitation of time, application for refund should be made promptly on behalf of each producer.

The grounds of Judge Williams' decision upon which he held the law void was that it was the clear intention of the legislature expressed in the act itself, and shown by the history and contemporary construction of the legislation that the production tax was to be in lieu of all other taxes.

Since it has been subsequently held that the oil producing property cannot constitutionally be, and is not exempted from the payment of other taxes by payment of the production tax, it is clear that the interest of the legislature has failed and the whole act, its parts being inseparable, must fail.

As this class of property has been subjected to the burden of double taxation, but the unintended operation of this act, its nullification is hailed as a welcome relief to the industry, and a simple act of justice, by which such property is left on the same basis as other classes subject to taxation.

TEXAS PORT SHIPMENTS

GALVESTON, Tex., Oct. 11.—Despite a heavy slump in imports of crude oil through the ports of Galveston, Texas City and Freeport for September, increased exports from Galveston and Texas City and increased coastwise shipments from the latter port made a gain of 500,000 bbls. in the total volume of oil entered and cleared through these three ports, compared with August totals, according to figures from the Galveston Customs House.

The total oil movement for the month past was 2,567,627 bbls., according to entrance and clearances made through the local customs house, against 2,039,000 bbls. in August.

Securities of the Standard Oil and Independent Oil Companies
Bought—Sold—Quoted
FRANCIS, BRO. & CO.
Established 1877
Members
New York Stock Exchange, New York Curb Market and other leading Exchanges
Kennedy Building Tulsa, Oklahoma

Gasoline Plants Topping Plants
Gas Compressing Stations Refineries
Designed and Installed Complete
FEDERAL ENGINEERING COMPANY
PITTSBURGH, PA.

Essex Lubricating Devices Are Oil Country Favorites!
Because they are made right and sold right. 22 years on the market.
Sold by jobbers everywhere,
Catalogue on request
Essex Brass Corporation
2000 Franklin Street
DETROIT, MICH.

Top Inlet and Top Outlet
Equitable Meter Company
422-434-444 First Avenue
PITTSBURGH, PA.
Meters and Regulators for Natural or Artificial Gas
Sizes, ½" to 24"

OIL AND GAS
"A REAL OIL COUNTRY BELT"
Manufactured by
IMPERIAL BELTING CO., Chicago
Sold by
OIL WELL SUPPLY CO. In All Fields

VALVES and FITTINGS
for Every
Oil Country Service
THE KELLY & JONES Co.
WORKS - GREENSBURG PENNA.
BRANCH STORES AND OFFICES
NEW YORK - PITTSBURGH - CHICAGO - CINCINNATI
BUFFALO - ST. LOUIS - SAN FRANCISCO

Detailed Operations in All Fields for September 1924

SUMMARY OF ALL FIELDS

Field—	Comp.	Prod.	Dry	Gas
Eastern	403	1,899	58	76
Lima	46	658	4	1
Central Ohio	55	151	16	31
Indiana	11	137	4	1
Kentucky	122	1,298	20	2
Illinois	21	588	6	0
Kansas	53	2,539	23	2
Oklahoma	366	122,213	131	20
North Central Texas	137	11,475	42	10
East Central Texas	37	12,535	12	0
Gulf Coast	79	22,617	37	0
Southwest Texas	34	6,295	3	3
Louisiana-Arkansas	102	4,865	34	17
Wyoming	110	17,238	1	5
Montana	20	5,200	5	2
Colorado	2	3,000	1	0
Total September	1,598	212,708	397	170
Total August	1,921	244,407	435	197
Difference	323	31,699	38	27

Rigs and Wells Drilling

Field—	Rigs	Drg.	Ttl.
Eastern	143	419	562
Lima	9	63	72
Central Ohio	40	96	136
Indiana	1	22	23
Kentucky	11	189	200
Tennessee	3	14	17
Mississippi	6	20	26
Alabama	0	11	11
Georgia	1	4	5
Illinois	5	27	32
Kansas	60	300	360
Oklahoma	204	1,010	1,214
North Central Texas	56	222	278
East Central Texas	10	50	60
Gulf Coast	22	117	139
Southwest Texas	109	391	500
Louisiana-Arkansas	59	204	263
Wyoming	89	339	428
Montana	23	138	161
Colorado	8	46	54
Utah	2	25	27
New Mexico	3	23	26
Total September	864	3,730	4,594
Total August	965	3,925	4,890
Difference	101	195	296

Note.—In the following report the Section, Township and Range are given first; then the farm, the owner, the serial number of the well and the initial production of the well. The rigs and wells drilling are set forth in similar manner. In lines where the Section, Township and Range are missing the wells are located in the Sections, Townships and Ranges which appear next above in the report.

OKLAHOMA

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Washington-Nowata-Rogers	0	0	0	0
Osage	55	10,219	9	1
Tulsa	25	619	12	2
Okmulgee	33	284	22	1
Okfuskee-Hughes-Seminole-McIntosh	36	27,874	6	1
Muskogee-Wagoner	33	110	26	4
Creek	66	14,230	19	1
Pawnee	10	2,062	1	3
Payne	3	20	1	1
Kay	18	38,797	3	1
Garfield-Noble	8	22,195	0	0
Carter	29	1,609	7	1
Stephens-Cotton	14	210	11	0
Miscellaneous	36	3,990	14	4
Total September	366	122,213	131	20
Total August	357	121,870	98	33
Difference	9	343	32	13

Summary of New Operations

County—	Rigs	Drg.	Ttl.
Washington-Nowata-Rogers	0	7	7
Osage	24	129	153
Tulsa	7	25	32
Okmulgee	9	48	57
Okfuskee-Hughes-Seminole-McIntosh	43	191	234
Muskogee-Wagoner	4	34	38
Creek	33	99	132
Pawnee	10	52	62
Payne	4	11	15
Kay	13	85	98
Garfield-Noble	23	58	81
Carter	10	54	64
Stephens-Cotton	2	27	29
Miscellaneous	22	190	212
Total September	204	1,010	1,214
Total August	261	1,114	1,375
Difference	57	104	161

OSAGE COUNTY
Wells Completed

5-20-11 Pioneer Oil 3 50
28-20-11 Gray Oil 4 100
23-21-10 Breene-Markham 245
31-21-12 Tidal Osage 1 1500
29-22- 8 Thompson & Black 3 100
20-23- 8 Marland 11-A 8
34-21-12 J. R. Hadley 1 ..... dry
6-26-10 Johnson et al 1 ..... dry
14-28- 4 Miller-Treadway 1 ..... dry
21-20-11 Sand Springs Home 1 190
17-21-11 Breene et al 2 45
20-23- 8 Marland Oil 1 35
Marland Oil 14 50
5-24-11 M. Grace Maxwell 5 40
28-25- 8 Indian Territory Illuminating Oil Co. 295 ..... gas
33-25- 8 Marland Oil 2 100
19-25- 9 New England Oil 10 40
16-26- 6 Carter Oil 10 563
18-27- 6 Kewanee O. & G. Co. 12 139
14-21-10 Breene & Markham 1-A 280
13-23- 8 Twin State 7 15
20-23- 8 Red Bank Oil 5 17
16-26- 6 Carter Oil 14 400
17-27- 6 Peters & Oliphant 2 541
18-27- 6 Kewanee O. & G. Co. 13 256
20-27- 6 Phillips Pet. 5 50
34-22- 9 Plymouth Pet. 1 ..... dry
10-24- 9 Marland Oil 1 ..... dry
5-20-11 Barnsdall Oil 10 100
22-21-10 Breene-Markham et al 2 75
14-22-10 Osage Arrow Oil 7 30
29-23- 8 Red Bank Oil 5 800
16-24- 8 Marland Oil 5 30
29-25- 8 Lewis Oil 1 65
2-26-11 Knupp et al 1 10
11-27- 5 Carter Oil 1 1002
Phillips Pet. 1 150
14-27- 5 Phillips Pet. 2 500
11-27- 5 Phillips Pet. 13 720
14-27- 5 Phillips Pet. 13 50
18-27- 6 Kewanee Oil 11 25
5-22-11 Owen Osage Oil 300 ..... dry
1-21- 8 I. T. I. Oil 1 3
15-21-10 Chocben Oil 1 ..... dry
9-21-12 J. C. Stine 5 3
19-22-11 Stineburg et al 1 ..... dry
20-23- 8 Marland Oil 2 35
11-27- 5 Carter Oil 3 700
13-27- 5 Carter Oil 1 345
Carter Oil 2 390
14-27- 5 Phillips Pet. 4 300
Phillips Pet. 9 100
18-27- 6 The Texas Co. 1 40
22-28-11 Owen Osage 301 ..... dry
20-29- 9 Winona Oil 3 12
Wells completed 55
Production 10219
Dry 9
Gas 1

TULSA COUNTY

8-19-12 Townsite, Caldwell et al 1 50
Townsite, Hartman & Williams 1 20
1-17-14 Berryhill, Slick et al 1 100
29-19-12 Postoak, J. I. Hendrick 8 ..... dry
30-19-12 Roberts, Eppler et al 1-A ..... dry
6-19-12 Bruner, Sand Springs Home 5 50
8-19-12 Stritt, Morganahan et al 2 20
24-17-14 Grayson, Hazlett et al 2 7
8-19-12 Harrison, Terwilleger 3 ..... dry
23-18-14 Boles, Turman Oil 2 ..... dry
30-17-14 Dupriest, McCollough et al 2.. dry
3-16-12 Funk, Webber & Taylor 2 ..... dry
5-19-12 Grayson, Echo Oil 9 20
6-19-12 Bruner, Sand Springs Home 4.. 200
8-19-12 Townsite, Weston et al 1 ..... gas
4-19-12 Partridge, Enfisco Oil 1 ..... dry
Childers, Graham et al 1 ..... dry
8-19-12 Townsite, McDonald et al 1 .. dry
Townsite, Lionberger & Mathews 1 ..... dry
33-19-12 Sookey, Munn Bros. 1 ..... dry
9-18-13 Bruner, Elliott et al 4 ..... gas
1-17-14 Akwee, T. B. Slick 1 100
36-18-14 Moore, Slick et al 1-A ..... dry
18-19-14 Grayson, G. C. Shaw 1 2
2-18-12 Froe, Edwards et al 1 50
Wells completed 25
Production 619
Dry 12
Gas 2

OKMULGEE COUNTY

6-12-12 Mitchell, Gladys Belle Oil 4... 50
16-14-14 Colbert, F. D. Misener 13 5
23-16-11 Houston, Meridian Oil 1 ..... dry
3-15-11 Strip, J. B. Kelly 1 20
25-16-12 Staley, Okla. Nat. Gas 2 ..... dry
2-13-12 Murphy, King & Jackson 1 ..... dry
4-11-12 Hawkins, Henryetta O. & G. Co. 3 ..... dry
36-11-12 King, Jess Rebold 1 ..... dry
26-13-13 Freeman, H. H. Galbreath 3 .. dry
15-13-14 Scott, Utah Oil 12 ..... dry
22-13-14 Fox, Aiken Oil Co. 7 ..... dry
7-13-15 Freeman, Lambert 6 ..... dry
18-15-12 Cousins, Farris & Potter 1 15
14-13-11 Brazill, Twin State 2 12
5-11-12 Hawkins, Moffett & Slick 1 .. 10
16-15-11 Gibson, Waite Phillips 1 ..... dry
23-14-14 Corbray, C. Smith 4 7
9-15-14 Corbray, H. W. Lampton 2 ... dry
3-15-11 Adams, Jackson & Wise 4 60
14-15-11 Koets, Sheridan Oil 1 ..... abd
17-15-11 Gibson, Shaffer O. & R. 1..... dry
5-15-12 Hickey, Taylor et al 1 ..... dry
35-14-12 Skelton, McFarland Oil 1 ..... dry
21-13-11 Clarke, Berry Pet. 1 ..... dry
17-13-13 Gray, C. B. Bunty 5 ..... dry
23-13-14 Scott, Lundy et al 7 ..... dry
32-15-13 Hood, Mid-Kansas Oil 1 ..... dry
25-13-11 Tobler, The Prairie Oil 11 65
10-12-14 Wilson, E. R. Black 2 ..... dry
14-13-14 Leader, Becker et al 1 ..... dry
3-14-13 Leader, Becker et al 1 ..... gas
16-14-14 Colbert, F. D. Misener 6 ..... dry
Colbert, F. D. Misener 13-B.. 40
Wells completed 33
Production 284
Dry 22
Gas 1

OKFUSKEE, HUGHES, SEMINOLE AND McINTOSH COUNTIES

9-10- 8 Bruner, Transcontinental - Sinclair 1 3820
10-10- 8 Berryman, Roxana Pet. 4 3650
Brown, Burk Greis 2 4170
16-10- 8 Stidham, Hoffer & Shore Line Oil 4 106
35-12-11 Robinson, Aztec Tribes Oil 1.. dry
15-10- 8 Yarhola, Cosden 1 1440
Yarhola, Cosden 2 1032
16-10- 8 Roberts, Carter Oil 3 1059
Bruner, Amerada Pet. 2 1241
9- 9-11 Holt, Tidal Osage 2 20
4-13- 8 Saryokishe, Iron Mt. O. & G. 2 dry
17-12-10 Howeson, Blakely & Atlantic 1 25
34-12-11 Holmes, Anglo Texas Co. 1.... dry
3-12-11 Grayson, Parshall 1 ..... dry
9-10- 8 Bruner, Transcontinental and Sinclair 1 2689
10-10- 8 Berryman, Roxana Pet. 1 ..... gas
16-10- 8 Proctor, Gilliland & Livingston 5 980
Roberts, Carter Oil 2 1582
Proctor, Waite Phillips 1 1050
22-10- 8 Yarhola, Shaffer O. & G. 7.... 75
35-10- 8 Arfulka, Wedell & Independent O. & G. 1 ..... dry
3- 9- 9 Davis, Kingwood Oil 5 540
4- 9- 9 Tiger, Foster Inv. Co. and T. A. Johnson 2 70
Ogle, Foster Inv. Co. and T. A. Johnson 1 800
Alexander, Papoose Oil 8 420
Carter, E. L. Robinson & Amerada 2 1035
Tiger, Transcontinental 2 60
Tiger, Transcontinental 4 800
Tiger, Transcontinental 5 840
29- 8- 8 Walker, Homaokla e. al 2 200
30- 8- 8 Howard, Magnolia 1 475
Johnson, Ramsey 1 30
32- 8- 8 Harris, Dixie Oil 1-A ..... dry
Parker, Magnolia Pet. 3 775
4- 7- 8 Long, P. & R. Corp. 2 70
31- 8- 8 Salinda, Prairie Oil 1 60
Wells completed 36
Production 27874
Dry 6
Gas 1

MUSKOGEE-WAGONER COUNTIES

2-17-16 McIntosh, B. G. Goble 1 30
26-18-16 Burgess, Darby 2 50
10-18-17 Wilson, W. C. Buckles 1 ..... dry
18-17-15 Pike, Bankers Oil 1 30
27-15-15 Charles, Turin 4 ..... dry
3-16-16 Carter, Porter 1 ..... dry
20-16-17 Marshall, Harris Hays 1 ..... dry
14-17-15 Davis, Omar Oil 2 ..... dry
21-17-17 Marshall, White Eagle O. & R. 2 ..... dry
28-17-17 Marshall, Harris Hays 1 ..... dry
22-18-16 Sanford, F. D. Craver 1 ..... dry
29-18-16 Prince, J. E. Martin 1 ..... dry
27-18-16 Fulotka, Waite Phillips 1 ..... dry
36-18-17 Green, C. M. Betz 18 ..... dry
36-19-16 Kernal, Hughes & Hanaway 1. dry
18-17-16 McIntosh, Perry-Hartman 1... gas
17-15-17 Manuel, H. E. Williams 3 ..... dry
7-16-16 Collins, Fay Drg. Co. 1 ..... dry
24-16-16 Marshall, W. N. Loar 1 ..... dry
12-17-16 Burney, Young 1 ..... dry
12-17-16 Harris, A. Cassellman 3 ..... dry
Harris, A. Cassellman 4 ..... dry
13-17-16 Atkins, A. Cassellman 1 ..... dry
Marshall, J. L. Slusher 1 .... dry
13-18-16 Morris, O. A. Sewell 1 ..... dry
20-18-16 Hawkins, Cumberland Oil 1 ... dry
26-18-16 Fulotka, C. F. Rhodes 1 ..... dry
27-14-15 Durant, E. C. Robinson 3 .... gas
29-14-16 Brown, R. W. Vallentine 3 ... dry
18-17-16 Marshall, Perry et al 1 ..... gas
21-17-17 Marshall, T. W. McCurry 1 ... dry
9-18-16 Thompson, A. L. Burwell 2... gas
18-18-16 Daniels, Stryker 4 ..... dry
Wells completed 33
Production 110
Dry 26
Gas 4

CREEK COUNTY

32-17- 8 Washington, Olean Pet. 6..... 100
2-14- 8 Davy, White Oil 1 45
12-14- 8 Bruner, C. G. Tibbens 2 55
8-16-12 Townsite, Noble Oil 1 25
Townsite, Henry Oil & Shelton Bros. 1 25
2-19- 8 Vincent, Mann & Smith 1 ..... dry
30-14- 8 Coker, Waite Phillips 1 ..... dry
9-16-10 Ralston, Devonian Oil 3 ..... dry
13-19- 8 Ross, Shaffer O. & G. 1 20
7-14- 7 Jack, Pulaski Oil 2 340
8-16-12 Townsite, P. D. Flynn 1 35
33-15-10 Post, Wilcox O. & G. 7 25
15-15- 8 Wilson, Gypsy Oil 1 ..... dry
34-14-10 Kimble & Reading, Cosden Oil 1 ..... dry
22-16- 8 Knoll, Laurel O. & G. Co. 6....5000
6-14- 7 Coyarka, Roxana Pet. 2 236
7-14- 7 Lewis, Amerada Pet. 7 1308
Lair, Amerada Pet. 9 100
36-17- 9 Self, Kiycoe Oil 5 20
8-16-12 Monroe, Riverland Oil 9 600
Townsite, Noble O. & G. Co. 1 100
Townsite, Miller Bros. 1 200
Townsite, West & Hancock 1.. 680
Townsite, Calvin & Belt 1 30
Townsite, Howard & Duffield 1 300
27-15-10 Snyder, The Texas Co. 1 250
4-14-10 Wright, Phillips Pet. Co. 2.... 200
21-14-10 Scott, E. L. Kistler 1 25
22-14-10 Unallotted, Empire G. & F. Co. 1 110
16-15- 8 Fish, Eastern Oil Co. 2 ..... dry
11-14- 8 McDaniel, Skelly & Billingslea 2 ..... dry
29-18-10 Henry, Sapulpa Fuel Co. 2 .... dry
8-16-12 Townsite, Noble O. & G. Co. 1 dry
Townsite, Bradstreet et al 1.. dry
14-17- 8 Johnson, Atlantic O. P. 1 75
Johnson, Aztec Oil 1 150
8-15- 8 Wilson, Producers & Refiners 1 130
17-15- 8 Peck, Skelly Oil 1 50
7-14- 7 Jack, Farren & Wood 4 800
13-14- 8 Sewell, C. G. Tibbens 4 130
8-16-12 Townsite, Daily Bros. & Riverland Oil 1 400
Townsite, Sheldon-Houston Oil 1 25
1-15-10 Simmons, Barbara Oil 2 ..... gas
23-14- 9 Mayes, G. W. Davis et al 2.... 8
4-14-10 Wright, Skelly Oil 6 40
4-16- 7 Barnett, Gypsy Oil 1 ..... dry
21-16- 8 Williams, H. Wilson ..... dry
11-18-11 McKim, Jackson & Wise 1 .... dry
4-16- 9 Renfro, Kelley & Abarus 2 .... dry
4-16-10 Yellowhead, Hartman & Williams 1 ..... dry
7-14- 7 Jack, Farren & Woods 3 620
26-14- 8 Johnson, Tibbens O. & G. 10.. 10
10-18-10 Comar, Skelly Oil 4 ..... dry
31-17-11 McFarlin, Hart & O'Lauchlin 1 dry
16-16- 9 Unallotted, Howard et al 3 100
8-16-12 Townsite, S. W. Anthony 1 210
Monroe, Riverland Oil 8 100
Monroe, Riverland Oil 10 150
Townsite, Harris & O'Hare 1.. 210
Townsite, Gawland et al 1 50
Townsite, Bowen et al 1 ..... dry
29-15- 9 Lane, Pure Oil 1 40
22-15-10 Clark, Wolverine Oil 5 100
24-14- 9 Bradbury, Phillips Pet. 1 595
8-14-10 Tiger, Jackson & Daniels 1 .... dry
17-14-10 Johnson, Hall & Donnelly 1 .. 408
Wells completed 66
Production 14230
Dry 19
Gas 1

PAWNEE COUNTY

21-20-6e Lesher, Magnolia Pet. 2 ..... gas
22-20-6e Lesher, Fern Oil 1 100
16-20-6e School land, Magnolia Pet. 1.. 140
17-20-7e Pettit, Reese et al 1 410
15-20-7e Ham, Prairie Oil 2 ..... gas
17-20-6e White, Watchorn Oil 4 50
22-20-6e Smith, Westerly Oil 2 ..... gas
25-20-9e Bake, Mutual Oil 2 5
30-20-8e Southwick, Wood Oil 1 ..... dry
33-23-3e Miller, Watchorn Oil 9 160
Wells completed 10
Production 380
Dry 2
Gas 1

PAYNE COUNTY

34-19-4e Wiley, Magnolia Pet. 1 30
18-18-5e Harlow, Carter Oil 1 ..... dry
3-18-4e Payne, Mulberry Oil Co. 2..... gas
Wells completed 4
Production 30
Dry 2
Gas 1

KAY COUNTY

34-25-1w Endicott, Comar Oil 5-W..... 4410
Beverlin, Comar Oil 1-W..... 5520
35-25-1w Endicott, T. B. Slick 5-E..... 2200
34-25-1w McKee, Wentz Oil 22 ..... dry
9-27-5e Clubb, Skelly-Phillips 1 ..... dry
16-27-1w Barr, Ostot Dev. Co. 3 30
34-25-1w McKee, Wentz Oil Corp. 1 30
21-29-1w Duncan, Comar Oil 1 1170
34-25-1w Endicott, Pennok Oil 5-D 1570
McKee, Wentz Oil 18 2310
9-27-1w Geiger, Blackwell Oil 1 ..... gas
34-25-1w Endicott, Pennok Oil 6-D 1560
Endicott, Comar Oil 4-D 4470
Endicott, Comar Oil 6-W 4590
Endicott, Comar Oil 7-W 3402
3-27-1w Rohos estate, Ostot Dev. Co. 2 dry
34-25-1w McDaniel, Phillips Pet. 1 ..... dry
35-25-1w Endicott, Comar Oil 5-W 2437
Wells completed 11
Production 38731
Dry 1
Gas 1

GARFIELD-NOBLE COUNTIES

2-24-1w Shawver, Gypsy Oil 83 4430
Blubaugh, Comar Oil 5-B 2460
Shawver, Gypsy Oil 84 3400
Shawver, Gypsy Oil 85 4264
19-22-3w Kisner, Sinclair Oil 11 15
2-24-1w Blubaugh, Comar Oil 8-C 170
Gaume, Comar Oil 1-W 4462
3-24-1w Pettit, Comar Oil 6-W 3296
Wells completed 8
Production 22216

CARTER COUNTY

23-2s-3w Williams, Fitzgerald 2 75
Davis, Twin State 3 15
31-2s-2w Palmer, Patsey Kirk Oil 3..... 45
4-4s-3w Lowery, Pure Oil 31 35
21-4s-2w Noble, Carter Oil 46 40
18-2s-2w Pearce, Continental Supply Co. 1 ..... dry
21-4s-2w Thompson, Magnolia 12 ..... dry
25-2s-3w Gault, Atlantic O. P. Co. 2.... 60
21-2s-2w Bennett, Magnolia Pet. 7 20
20-5s-1w Kirby, Amerada Pet. 1 35
4-4s-3w Johnson, Roxana 20 7
21-4s-2w Noble, Carter Oil 39 15
1-2-4s-2w Dillard, Westheimer 16 75
23-2s-3w Lohman, Magnolia Pet. 1 7
16-4s-2w Mullen, Carter Oil 15
22-4s-2w Dillard, Westheimer Oil 18 ... 75
26-2s-3w Schwartz, Magnolia Pet. 5 ... dry
9-4s-2w Lowery, Schermerhorn 1 .... dry
16-4s-2w Schellenberger, Magnolia Pet.. dry
20-1s-3w Gore, Simpson-Fell 1 ..... dry
23-2s-3w Williams, Fox Pet. 1 50
Williams, Magnolia Pet. 4 60
24-2s-3w Holma, Humble Oil 1 ..... dry
Curtis-Smith, Magnolia Pet. 5. gas
26-2s-3w Fee, C. R. Smith 6 30
35-2s-3w Brooks, Rockland Oil 6 125
30-2s-2w Sparks, Cotton Belt Pet. 7 ... 75
32-2s-2w Burrows, Humble Oil 2 45
20-5s-1e Farve, Amerada Pet. 16 250
Wells completed 21
Production 1680
Dry 1
Gas 1

STEPHENS-COTTON COUNTIES

31-2n-8w Allen, Hambro Oil 1 ..... dry
14-2n-5w Truitt, Rogers & White 1.... dry
23-1n-9w Fleming, W. M. Priddy 1 .... dry
30-1n-8w Funk, Magnolia Pet. 2 ..... dry
18-2s-7w R. Bristowe, Mid-Kansas 5 ... dry
33-1s-8w Stephens, Magnolia Pet. 7 .... dry
10-2s-6w Harlan, National Ref. 1 30
33-1n-8w Morgan, Coline Oil 3 60
34-1s-8w Kagay, J. R. McQueen 2 100
22-1s-8w Warner, C. & O. Drg. Co. 1 ... 30
3-1n-4w Chism & Graham, Macey Drg. Co. 1 ..... dry
36-1s-8w Davis, Clark & Cowden 1 .... dry
15-2s-7w Toney, Magnolia Pet. 1 ..... dry
22-5s-12w Indian, Woods & Staley 1 ... dry
Wells completed 14
Production 210
Dry 11

MISCELLANEOUS

Garvin County—
13-1n-3w Pearce, Texas Pacific C. & O. 3 25
3-1n-2w Joy, Kennedy Bros. 1 ..... dry
16-1n-2e Wolf, Corn Huskers Oil 1 .... dry
9-1n-3w Purnell, P. C. & O. Co. 12.. 100
11-1n-3w Wyatt, J. C. Shaffer 1 25
Jefferson County—
33-6s-5w Seay, Hambro Oil 2 50
34-6s-5w Seay, The Prairie Oil 1 50
13-7s-6w Woodworth, Okla. Southern Oil 1 ..... gas
Beckham County—
14-9n-23w Ingram, Texas & Santrock 1. dry
Washita County—
23-9n-17w Montgomery, R. B. Hartman 1 ..... dry
Grady County—
10-9n-6w Thomas, Tuttle Oil 1 ..... dry
7-3n-5w Horton, Roy Nash & Carter Oil 1 ..... dry
11-3n-5w Sherrell, Gant Becker 1 ..... dry
26-5n-8w Smith, Briscoe & Hall 2 ..... gas
Grant County—
23-27-3w Martin, Kay Oil 3 ..... gas
Mayes County—
27-19-18 Parlor, Campbell & Dustin 1.. gas
Haskell County—
15-10-23 Moore, H. U. Bartlett 1 ..... dry
Pontotoc County—
28-3n-4e Kahn, H. F. Wilcox O. & G. 1 dry

4-2n-7e Walker, Empire G. & F. 1 .... dry
Washington County—
23-25-13 Sullivan, C. H. Pitman et al 1. 25
Lincoln County—
1-14- 6 Welch, Amerada 2 110
1-14- 6 Lewis, Amerada 8 450
12-14- 6 Lewis, Willis et al 2 480
Townsite, Willis et al 2 720
Townsite, Chas. F. Noble 1... 312
Dowell, J. A. Hull 7 40
2-14- 6 Jackson, Union Pet. & Supply 2
2-14- 6 Jackson, Waite Phillips & Sinclair 1 ..... dry
Townsite, Roxana Pet. 6 160
1-14- 6 Zollers, Roxana Pet. 6 .....
12-14- 6 Townsite, Union Pet. & Supply 7 480
42
12-14- 6 Lewis, Roxana 1 ..... dry
1-14- 6 Zollers, Roxana Pet. 8 ..... abd
12-14- 6 Brace, Roxana Pet. 3 ..... dry
Brace, Gypsy Oil 1 410
Townsite, Dowell et al 1 100
Dowell, J. A. Hull 6 408
13-14- 6 Townsite, Bailey et al 1 .....

Wells completed 36
Production 3990
Dry 14
Gas 4

WASHINGTON COUNTY

Wells Drilling

33-26-13 Jones, G. W. Gambill 4.
4-28-14 Winkler, Hepworth Oil 1.
19-29-14 Welch, Alimo Oil 9.
29-29-14 Goodman, A. McBride 1.
Sloter, — Oil 2.
11-28-13 Courtney & Conway, Tidal 16.
34-29-13 Holland, Lafayette Oil 1.
19-28-13 Graham, D. M. Tyler 1.

NOWATA COUNTY

11-29-15 Taylor, Delo et al 1.
12-28-15 Welch, Wilcox et al 1.
14-28-14 Thompson, Lambert O. & G. 1.
Rigs, 0; wells drilling, 11; total, 11.

OSAGE COUNTY

Rigs

12-21-10 T. B. Slick 1.
5-21-11 Hornicker et al 2.
6-21-11 Titus et al 8.
30-21-12 Elliott & Smith 3.
32-21-12 Okla. Nat. Gas 644.
34-22-10 Tidal Osage Oil 39.
13-23- 8 Twin State 6.
29-23- 8 Marland Oil 4.
24-24- 9 Tidal Osage Oil 13.
26-24- 9 Tidal & Comar 3.
33-24- 9 Peters Pet. 5.
27-25- 8 Atlantic Oil 5.
29-25- 8 I. T. L. Oil 282.
16-26- 6 Carter Oil 12.
11-27- 5 Phillips Pet. 3, 4, 7, 8, 11, 15.
14-27- 5 Phillips Pet. 11, 15.
18-27- 6 Phillips Pet. 8.
The Texas Co. 5.

Wells Drilling

6-20-10 Gwynnup et al 1.
21-20-11 Sand Springs Home 2.
28-20-11 Gray et al 5.
29-20-12 Shaffer O. & R. 1.
9-21- 9 McKinney et al 2.
10-21- 9 Phillips Pet. 1.
14-21-10 Breene et al 2.
22-21-10 Breene et al 2.
23-21-10 Titus et al 4.
27-21-10 Breene et al 1.
30-21-12 Grimes & Gillespie 11.
Barnsdall Oil 17.
31-21-12 Barnsdall Oil 26.
14-22- 8 Riverland Oil 4.
22-22-10 Erton O. & P. Co. 12.
3-23- 8 Superior Oil 3.
McKeon 2.
20-23- 8 Red Bank Oil 4.
25-23- 8 Marland Oil 12-A.
21-23- 8 Beacon Oil 1, 2.
34-23- 8 Mutual Oil 1.
4-23-10 D. Slingluff 2.
12-24- 4 Douglas Oil 1.
15-24- 8 I. T. I. Oil 326.
32-24- 8 Mutual Oil 8.
19-25- 8 A. G. Oliphant 1.
21-25- 8 Mid-Kansas 2, 3.
28-25- 8 E. B. Lawson 7, 9, 10.
34-25- 8 Gypsy Oil 1.
29-25- 8 The Texas Co. 7, 8, 9.
34-25- 8 Mid-Kansas 1.
Marland Oil 1.
Marland Oil 1.
10-25- 9 Watchorn Oil 1.
1-25-11 Robinson 5.
30-25-12 I. T. I. Oil 31.
36-25-12 Beacon Oil 3.
16-26- 6 Carter Oil 16.
Carter Oil 11.
17-26- 6 Cosden Oil 5.
26-26- 8 Petroleum Drlg. 10.
10-26-11 Knupp et al 1.
11-27- 5 Carter Oil 2, 4, 5, 6, 7, 8, 9, 10.
Phillips Pet. 2, 5, 6, 9, 10, 12, 14, 16.
13-27- 5 Carter Oil 2, 3, 4, 6, 7, 8.
Carter Oil 1, 3, 4, 5, 6, 7, 8, 9, 10.
14-27- 5 Phillips Pet. 1, 3, 5, 6, 7, 8, 10, 12, 14, 16.
26-27- 5 Phillips & Skelly Oil 7, 15.
Skelly Oil 4.
Phillips & Skelly Oil 12, 13.
35-27- 5 Skelly Oil 2.
18-27- 6 Phillips Pet. 1, 2, 3, 4, 6.
The Texas Co. 2, 3, 4, 6, 7.
10-27-10 Tuloma Oil 8.
10-27-11 Owen Osage Oil 302.
19-29- 9 Wiser Oil 1.
27-29-11 C. K. Dresser 7.
27-29-11 Beacon Oil 4.
24-29-11 I. T. I. Oil 1.

Wells Shut Down

6-21-11 Titus et al 7.
31-21-12 Barnsdall Oil 25.
15-22- 8 Foster & Alexander 1.
34-22-10 Tidal Osage Oil 38.
12-23- 8 Mid-Kansas 5.
3-23- 8 McKeon 1.
26-23- 8 Marland Oil 13.
4-23-10 Rex Pyramid Oil 1.
26-24- 8 H. V. Foster 36.
23-24- 9 H. V. Foster 43.
25-24- 9 Winona Oil 2.
30-24- 9 I. D. Simons et al 1.
31-25- 7 Vickers & Higgins 1.
10-25- 8 Henderson & Holden 4.
26-26- 8 Seamans et al 1.
12-27- 5 Carter Oil 5.
17-27-11 Price Oil 1.
23-21-10 Titus et al 3.
Rigs, 24; wells drilling, 129; total, 153.

TULSA COUNTY

Rigs

4-19-10 Lindsey, Steele et al 1
3-19-11 Josey, Sand Springs Home 1.
5-19-12 Childers, H. W. Wilson 1.
Grayson, Echo Oil 5.
6-19-12 Bruner, Sand Springs Home 6.
2-18-12 Unallotted, Edwards et al 3.
Froe, Edwards et al 2.

Wells Drilling

4-19-10 Unallotted, Hivock & O'Reilly 2.
26-19-11 Johns, Superior Oil 4.
5-19-12 Partridge, Thompson & Black 2.
7-19-12 Berryhill, Thompson & Black 3.
16-19-12 Morrison, McFann et al 3.
29-19-12 Hawkins, Brooks et al 1.
31-19-12 Keefer, Stebbins O. & G. 19.
16-18-13 Perkins, Vick Oil 10.
16-17-13 Posey, Enfisco Oil 13.
1-17-14 McHenry, Waite & Findley 2.
McHenry, T. B. Slick 1.
Akwee, T. B. Slick 2.
2-17-14 Unallotted, Green et al 2.
14-17-14 Cox, Maples et al 1.

Wells Shut Down

13-19-10 Cowans, Darby Pet. & Westland Oil 1.
22-19-10 Timothy, Holmes et al 1.
28-19-10 Cooper, Kessler-Cochran 1.
5-19-11 Inchal, Wood & Warden 1.
4-19-12 Childers, T. B. Jackson 1.
20-19-12 Berry, Thornton et al 1-A.
8-19-12 Thursday, Kessler & Ramsey 1.
13-19-13 Grayson, O. O. Owens et al 1.
13-18-12 Donaldson, Assn. Prod. & Refg. 1.
9-18-13 Strip, Pomeroy & Pouter 3.
25-17-12 Varnell, Murphy et al 1.
Rigs, 7; wells drilling, 25; total, 32.

OKMULGEE COUNTY

Rigs

5-15-11 Gibson, C. A. Wheeler & Wilder 1.
9-15-11 Strip, Indiahoma Ref. 2.
11-15-11 Adams, Cosden Oil 5.
29-15-11 Thompson, Kellough & Thompson 1.
31-12-12 Rentie, Dr. Thomas et al 10.
34-12-12 Holmes, Eagle Picher 6.
Rohhes, C. F. Dickerson 1.
32-14-14 Ashley, Jordan Oil 2.
16-15-14 Arch, West & Payne 2.

Wells Drilling

35-16-12 Gillette, Peer Oil & Riverland Oil 1.
34-16-12 Anderson, Hutchinson & Becker 2.
6-15-11 Thompson, Sheridan Oil 1.
20-15-12 Adam, Noble et al 3.
9-14-11 Tiger, Wheeler & Vincent 1.
36-14-11 Gill, A. Preston 2.
25-14-12 Milner, Mueller, Jordan & Ashley 1.
29-14-12 Gill, Henry Oil & Amerada Pet. 1.
6-13-11 Webster, Rebold et al 1.
2-13-12 Thomas, Brock & Vinson 1.
Murphy, King & Jackson 2.
1-12-12 Vurson, Beans & Wilder 1.
5-12-12 Sullivan, Colvin et al 5.
7-12-12 Wilson, A. D. Morton & Co. 1.
27-12-12 Henry, Eagle Picher 1.
31-12-12 Denison, Simms Pet. 3.
8-11-12 Sumner, Gillette & Kerr 1.
13-11-13 Kanard, B. Morgan 1.
7-13-15 Freeman, A. G Hazlett 4.
11-14-13 Snakeye, J. M. Kessler 3.
13-14-14 Fields, Wanderich Oil 3.
16-14-14 Colbert, Okla. P. & R. 5.
21-14-14 Morris, Roxaline Oil 6.
28-14-14 Andy, W. R. Sommerville 1.
36-14-14 Lewis, Enterprise Oil 6.
28-15-13 Brown, A. Shelton 2.
21-15-14 I. Osborn, Papoose Oil 21.

Wells Shut Down

35-16-12 Barnett, Southern States Oil Corp. 1.
25-16-14 Roberts, T. H. White et al 1.
12-15-11 Pendleton, Pollyana Oil 5.
26-15-11 Hill, Rickaway et al 2.
14-15-12 Sheppard, Frazier et al 1.
16-14-11 Lunsford, Clarian Oil 1.
31-14-11 Tiger, George Wittman 1.
14-13-11 Wood, Gibson & Zahniser 3.
22-13-11 Smith, C. L. Detter et al 1.
26-13-11 Murrell, A. B. Ice et al 3.
32-13-11 Thomas, Denver P. & R. 4.
Beets, Brock et al 9.
8-13-12 Graves, Logan et al 5.
9-11-12 Hawkins, Moffett & Slick 1.
18-11-12 Fish, Phillips Pet. 1.
20-12-13 Henry, Southern States Oil 1.
13-13-14 Barnett, Iron Mountain Oil 6.
19-14-13 Berryhill, J. M. Kessler 1.
32-14-14 Rentie, W. A. Settle 3.
32-14-15 Carter, R. L. McFann 2.
26-15-13 Suger, S. R. Vollentine 1.
Rigs, 9; wells drilling, 48; total, 57.

OKFUSKEE, SEMINOLE, HUGHES AND McINTOSH COUNTIES

Rigs

4-13- 8 Saryokishe, Link Oil 2.
27-12-11 Holmes, Hartman et al 1.
32-12-11 Hulsey, Josey Oil 1.
3-11-11 Myers, W. B. Pine 4.
5-11-11 Sears, Hartman et al 1.
32-11-11 Ashbury, Webb et al 1.
3-10- 8 Yarhola, Gypsy Oil 3.
4-10- 8 Dunn, Central National 3.
Dunn, Central National 4.
Dunn, Central National 5.
Jackson, Cosden Oil 1.
9-10- 8 Bruner, Transcontinental & Sinclair 8.
Bruner, Gardner & Carter Oil 7.
Bruner, Gardner & Carter Oil 8.
Hall, Carter Oil 1.
10-10- 8 Berryman, Roxana Pet. 1-A.
Little, Carter Oil 2.
Brown, Carter Oil 4.
Little, McMann Oil 5.
14-10- 8 King, Snowden & McSweeney 1.
15-10- 8 Tiger, Cosden Oil 4.
Yarhold, Cosden Oil 4, 5.
Tiger, Roxana Pet 3.
Harjo, Houston Oil 1.
22-10- 8 Yarhola, Cosden Oil 1.
Yarhola, Berry Pet. 4.
31-10- 9 Caroline, Berry Pet. 1.
35-10- 9 Sand, T. B. Slick 2.
35- 9- 6 Cudjo, Gillette et al 1.
9- 9- 8 Grayson, Kingwood Oil 1.
2- 9- 9 Alexander, T. B. Slick 2.
Bruner, T. B. Slick 1.
Alexander, Independent O. & G. 2.
3- 9- 9 Grayson, T. B. Slick and Gypsy Oil 2.
17- 9- 9 Brown, Margay Oil 7.
3- 9-11 Baker, Tidal Osage Oil 1.
1- 8- 8 Chupco, Berry Pet. 1.
Manley, Sinclair Oil 1.
32- 8- 8 Tiger, Magnolia Pet. 4.
Aldridge, Magnolia Pet. 2.
27- 6- 7 Chupco, T. B. Slick 1.
9-10- 8 Bunner, Pure Oil 10.
35-10- 9 Westbrook, Prairie Oil 1.
8-10- 8 Buckner, Prairie Oil 4.

Wells Drilling

1-13- 7 Simmons, Burk Greis Oil 1.
22-12- 9 Montgomery, Sinclair Oil 1.
36-12- 9 McMahan, Henry Oil and Burke Greis 1.
23-12-10 Harjo, Blakely et al 1.
28-12-10 Johnson, Blakely & McClain 1.
36-12-10 Fisher, C. L. McMahon et al 1.
30-12-11 Skelton, Shaffer O. & R. 1.
33-12-11 McCoy, Josey Oil 2, 3.
19-11-10 Grayson, Gibson & Zahnsler 1.
30-11-10 Grayson, Shaffer O. & R. 1.
3-11-11 Hawkins, Tidal Oil 2.
4-11-11 Cully, Anglo Texas 1.
13-11-11 Smith, Eagle Picher Oil 5.
13-11-11 Barnett, Waite Phillips 5.
26-11- 7 Schove, C. J. Wrightsman 1.
33-10- 6 Davis, F. J. Searight 1.
14-10- 7 Aldrige, Killibrew & Moore 1.
31-10- 7 Lack, Wrightsman & Gardner 1.
3-10- 8 Yarhola, Roxana Pet. 1.
Yarhola, Gypsy Oil 1, 2.
4-10- 8 Dunn, Central National 1, 2.
Fixico, Laurel O. & G. 1.
Dunn, Empire G. & F. 1, 2.
8-10- 8 Willis, Gypsy Oil 1, 2.
Baker, Tidal Osage Oil 1.
9-10- 8 Bunner, Pure Oil 2, 3, 4, 5, 6, 7, 8, 9.
Bruner, Transcontinental and Sinclair 2, 3, 4, 5, 6, 7.
Bruner, Gardner & Carter Oil 2, 3, 4, 5, 6.
Hill, Sinclair Oil 1, 2, 3, 4.
Hale, Gypsy Oil 1, 2, 3, 4, 5, 6.
Starr, Amerada Pet. 1, 2.
Hill, Carter Oil 1, 2, 3.
Starr, Carter Oil 1, 2, 3, 4.
10-10- 8 Brown, Roxana Pet. 3, 5, 6, 7, 8.
Berryman, Roxana Pet. 2, 3.
Berryhill, Roxana Pet. 1, 2, 3, 4.
Little, Carter Oil 1.
Brown, Carter Oil 1, 2, 3.
Hill, Carter Oil 1, 2, 3, 4.
Brown, Burke-Greis 3, 4.
Little, McMan Oil 2, 3, 4.
Little, Shaffer O. & G. 1.
Berryhill, Kingwood and Sinclair Oil 1, 2, 3, 4.
15-10- 8 Stidham, Gypsy Oil 4.
Willis, Gypsy Oil 3, 4, 1.
Willis, Cosden Oil 1, 4.
Tiger, Cosden Oil 2, 3.
Tiger, Snowden & McSweeney 2, 3, 4.
Harjo, Cosden Oil 1, 2.
Bruner, H. F. Wilcox O. & G. 3, 7, 8.
Tiger, Waite Phillips 1, 2, 3.
Tiger, Roxana Pet. 1, 2.
Bruner, Carter Oil 3, 4.
16-10- 8 Proctor, Gilliland & Livingston 3, 4, 6, 7, 8.
Roberts, Carter Oil 1, 3.
Bruner, Amerada Pet. 6, 7, 8.
Baker, Superior Oil 2, 4, 5, 6.
Baker, McMan Oil 1, 2, 3, 4.
Bruner, Gypsy Oil 3, 7.
Proctor, Waite Phillips 2.
17-10- 8 Bruner, Cosden Oil 1.
Bunner, Tidal Osage Oil 1.
21-10- 8 Harjo, Independent O. & G. 3.
Harjo, Tidal Osage 3, 4.
22-10- 8 King, Cosden Oil, 1, 3.
Yarhola, Berry Pet. 3.
14-10- 9 Haner, Roxana Pet. 1.
King, Tidal Osage Oil 1.
33-10- 9 Barnett, Midwest & Gulf Oil 1.
34-10- 9 Williams, I. T. I. Oil 1.
Williams, Gypsy Oil 1.
35-10- 9 Sand, T. B. Slick 1.
Dunson, T. B. Slick 1.
5-13- 9 Fixico, West et al 1.
35-10- 9 Sand, Kingwood Oil 1, 2.
Dunson, McMahon et al 1.
29-10-11 Cubbie, Fisher & Umburn 1.
35-10-12 McQueen, Carter Oil 1.
13- 9- 7 Williams, Independent O. & G. 1.
7- 9- 8 Cobb, Holmes & Jarvis 1.
36- 9- 8 Johnson, Riverside Oil 1.
2- 9- 9 Alexander, T. B. Slick et al 1.
Alexander, Independent O. & G. 1.
3- 9- 9 Grayson, T. B. Slick & Gypsy Oil 1.
Alexander, Cosden Oil 5, 6.
Grayson, T. B. Slick 2, 1.
Grayson, T. B. Slick 2.
4- 9- 9 Ogle, Foster Inv. Co. and T. A. Johnson 2.
Carter, F. L. Robinson and Amerada Pet. 3.
Carter, Skelly et al 1.
5- 9- 9 Willis, Sinclair Oil 1.
8- 9- 9 Brown, White Eagle O. & R. 1.
17- 9- 9 Brown, H. F Wilcox O. & G. 3.
Brown, Margay Oil 1.
Brown, Margay Oil 6.
Brown, Roxana Pet. 2.
Brown, Arkansas Nat'l Gas 3.
18- 9- 9 Brown, Magnolia Pet. 2.
Brown, Independent and Gladys Bell et al 1.
22- 9- 9 Manley, Josey Oil 1.
21- 9-10 Buck, W. C. Newman 1.
4- 9-11 Byrd, Magnolia Pet. 3.
Baker, Tidal Osage Oil 1, 3.
Coachman, Tidal Osage Oil 1.
9- 9-11 Baker, Mid-Kansas Oil 1.
Holt, Tidal Osage Oil 3.
Luch, Tidal Osage Oil 1.
25- 8- 7 Yornoh, Magnolia Pet. 1.
Rosana, Magnolia 2.
Rosana, Dixie Oil 1.
Ligon, Dixie Oil 1.
36- 8- 7 Cunsah, W. R. Ramsey 1, 2.
11- 8- 8 Larney, Dixie Oil 1.
12- 8- 8 Cullor, Roxana Pet. 1, 2, 3.
19- 8- 8 McGlessey, Ramsey & Boggs 1.
29- 8- 8 Joseph, Amerada Pet. 2.
Walker, Homaokla 3.
Brown, Magnolia Pet. 1.
Walker, Magnolia Pet. 1.
Josua, Magnolia Pet. 1.
30- 8- 8 Bowlegs, Gardner Pet. 1.
31- 8- 8 Salinda, W. R. Ramsey 1, 2, 3, 4.
Salinda, P. & R. Corp. 1, 2
Amos, P. & R. Corp. 1, 2, 3.
Willis, Boggs & Sykes Oil 1, 2, 3, 4, 5, 6.
32- 8- 8 Long, Dixie Oil 3-B.
Parker, Dixie Oil 2.
Tiger, Magnolia Pet. 1, 2.
Parker, Magnolia Pet. 4.
Frantz, Magnolia Pet. 1, 2.
Aldridge, Magnolia Pet. 1.
Perryman, Shaffer O. & R. 1, 2, 3, 4.
33- 8- 8 Long, Lewis & Clark 2, 3.
Parker, Magnolia Pet. 5.
18- 8-10 Irvine, Dixie Oil 1.
22- 7- 8 Davis, Transcontinental Oil 1.
5- 7- 8 Grayson, Dixie Oil 1-B.
25- 6- 6 Mingo, T. B. Slick 2.
33- 6- 6 Christy, Maxwell & Harvey 1.
18- 6- 7 Sanny, T. B. Slick 1.
6- 6- 8 Winey, R. G. Garland & Co. 1.
12- 5- 9 Johnson, Douglas Oil 1.
4- 5-11 McClain, Mathers & Skelly Oil 1.
29-11-14 McIntosh, Grundish et al 1.
2-12-16 Wineblook, Montague-Texas Oil 2.
21-13- 9 Callahan, Independent O. & G. 1.
8- 9-10 Harjo, Prairie Oil 1.
10-10- 8 Little, Prairie Oil 1.
8-10- 8 Buckner, Prairie Oil 1, 2, 3, 5.

Wells Shut Down

19-12-24 Batts, Sands Pet. 1.
25-12- 9 Callahan, Wangerine Pet. 1.
8-12-10 Yarhola, Blakely et al 1.
23-12-10 Harjo, Blakely, Bingham & Smith 1.
25-12-10 Fisher, Wedell & Blakely 1.
36-12-10 Gray, Atlantic O. P. 1.
33-12-11 Grayson, Angio Tex. Oil 2.
25-11- 9 Hill, E. R. Robinson & Gibson 1.
17-11-10 Dunson, E. R. Black & Turman Oil 1.
3-11-11 Meyers, W. B. Pine 3.
27-11-11 Harjo, H. F. Clark 1.
30-11-11 Holmes, W. M. Plummer 1.
34-11-11 Barnett, Oklavania 3.
16-10- 8 Baker, Superior 3.
22-10- 8 Yarhola, Carter Oil 1, 2.
Yarhola, Cosden Oil 2.
Yarhola, Carter Oil 1.
15- 9- 9 Davis, Turman Oil 1.
17- 9- 9 Brown, H. F. Wilcox O. & G. 1, 2.
Brown, Gilcrease Oil 3.
Brown, Margay 3, 5.
Brown, Roxana Pet. 1.
18- 9- 9 Brown, Cosden 1.
Brown, Arkansas Nat'l Gas 2.
20- 9- 9 Simon, Gilcrease 2.
Simon, Minehoma Oil 1.
23- 9- 9 Bruner, C. J. Wrightsman 1.
4- 9-11 Byrd, Mid-Kansas 1.
35- 8- 8 Jefferson, Johnson & Ash 1.
19- 8- 8 Townsite, Ramsey et al 1.
Townsite, Ramsey et al 1.
29- 8- 8 Walker, Dixie Oil 4.
32- 8- 8 Grayson, Independent & Sinclair Oil 1.
33- 8- 8 Foster, Independent Oil 3.
Foster, Diamond, Sinclair and Independent 1.
5- 7- 9 O'Miller, Fuhrman Pet. 1.
14- 6- 7 Carolina, Link Oil 1.
20- 6- 7 Dindy, Maxwell, Kawfield & McDougall 1.
14-12- 8 Billy, Western States Oil 1.
Rigs, 43; wells drilling, 191; total, 234.

MUSKOGEE AND WAGONER COUNTIES

Rigs

8-14-15 Anderson, J. L. Powell 5.
29-16-16 Crossley, H. E. Jones 1.
27-16-17 Marshall, Goble et al 1.
11-17-16 Birney, Young & Johnson 1.

Wells Drilling

12-13-15 Fulsom, Transcontinental Oil 1.
13-13-15 McGilbray, J. S. McCutcheon 2.
16-13-16 Collins, J. A. Sheppard 5.
25-15-16 Perryman, J. W. Curridan 1.
28-15-16 Canard, J. Summers 2.
7-15-18 Davis, Denton et al 1.
2-17-17 Posey, A. Williams 2.
14-17-17 Adams, C. L. Sherman 2.
30-17-17 Jacobs, O. A. Sewell 2.
29-17-18 Marshall, E. Coady 1.
29-17-19 Cobb, Aggas & Kirker 1.
27-18-16 Stewart, E. L. Kirby 2.
21-18-17 Hosmer, Sunray 2.

Wells Shut Down

24-12-19 Hood, Pike & Klatt 1.
6-13-16 Callahan, J. S. McCutcheon 3.
19-14-16 Beams, Voegler 7.
9-14-19 Cumpton, J. W. Hale 1.
2-15-16 Perryman, A. B. Ice 2.
7-15-16 Fmith, A. Straughn 7.
35-15-16 Lee, E. A. Hutchinson 9.
Lee, Harsha et al 1.
33-16-15 McDaniel, Hillside Oil 1.
30-16-17 Bennett, Korp & Ford 2.
25-17-16 White, Larsarskey Oil 2.
1-17-17 Taylor, J. W. Metzger 4.
29-17-17 Lewis, W. T. Wright 1.
25-18-15 Atkins, A. E. Corder 1.
34-18-15 Kenard, Greathouse 1.
35-18-15 Edwards, E. H. Kime 1.
2-18-16 Kelley, J. L. Towner 1.
21-18-16 Tiger, B. H. Wheeler 1.
33-18-16 Marshall, Schooltz et al 3.
29-18-17 Murrell, J. D. Marshall 1.
Trent, J. D. Marshall 1.
Rigs, 4; wells drilling, 34; total, 38.

CREEK COUNTY

Rigs

14-19- 8 Hinton, Kiskaddon et al 2.
16-18- 7 Manuel, Sinclair Oil 8.
17-18- 7 Starr, Silurian Oil 22.
13-17- 8 Bishop, Madden & Madden 1.
32-17- 8 Washington, Savoy & Page Oil 2.
17-15- 8 Yarhola, Pure Oil 15.
Wilson, Roxana Pet. 11.
Roberts, Eastern Oil 5.
20-15- 8 Beaver, Skelly Oil 1-A.
2-14- 8 Davy, J. W. Henry 1.
11-14- 8 White, Aztec Oil 4.
18-18- 9 Jones, Eva Bell Oil 2.
6-18-11 Hayes, Hartman & Williams 1.
18-17- 9 Harjo, Ba-Vi-Har Pet. 1.
21-17- 9 Charcotenne, Wood & Farren 1.
6-16- 9 Barnett, T. P. C. & O. Co. 1.
Childers, T. P. C. & O. Co. 1.
9-16- 9 Bethie, Gypsy Oil 1.
20-16- 9 Barnett, Dickerson et al 1.
32-16-10 Deer, Phillips Pet. 3.
2-16-11 Olentine, Pulaski Oil 1.
3-16-12 Whitstone, S. W. Anthony 1.
8-16-12 Monroe, Riverland Oil 12.
Townsite, Suppes et al 1.
Townsite, Noble O. & G. 1.
Townsite, J. E. Crosbie 1.
Townsite, Jackson & Wise 1.
22-15-10 Friday, Cumberland Oil 1.
16-14-10 Bear, Waite Phillips 2.
Bear, Josey Oil 1.
17-14-10 McNevins, Atlantic O. P. Co. 1.
20-14-10 Kimble & Reading, Wilcox O. & G. 1.

Wells Drilling

12-19- 8 Grayson, J. B. Greaves 2.
13-19- 8 Ross, Shaffer Oil 2.
26-19- 8 Foster, Kiskaddon et al 1.
11-17- 8 Self, Tim Cushing 1.
32-17- 8 Washington, Olean Pet. 2.
Washington, O. P. & R. Co. 2.
Artusse, Fartain Bros. 3.
6-16- 8 Willis, Olean Pet. 2.

22-16- 8 Knoll, Laurel O. & G. 7.
33-16- 8 Larnie, Woolfe Oil Corp. 1.
25-15- 7 Bigpond, Lima O. & G. 1.
17-15- 8 Roberts, Eastern Oil 4, 6.
26-15- 8 Narchubby, Buell & Bartlett 1.
30-15- 8 Marshall, Little Far Oil 3.
34-15- 8 Yarhola, C. G. Tibbens 6.
6-14- 7 Coyarka, Roxana Pet. 3.
Miller, United Pet. & Theda Oil 1.
7-14- 7 Jack, Waite Phillips 4.
Lewis, Roxana 2.
Lewis, Amerada Pet. 10, 11.
Lewis, Pulaski 1.
Cossar, Twin State 1.
Stover, Pure Oil 1.
16-14- 7 Clanton, Gladys Bell Oil 1.
2-14- 8 Ponds, Emery & Sons 6.
13-14- 8 Sewell, C. G. Tibbens 5.
17-14- 8 Har-Lar Char, Shaffer O. & R. 1.
30-14- 8 Kernel, O. P. & R. Co. 2.
36-14- 8 Beaver, Independent O. & G. 1.
31-19- 9 Cates, Waite Phillips 1.
14-18-11 Holden, Acosta et al 2.
18-18-11 Bruner, McLean et al 3.
32-18-11 Frew, Cross et al 1.
6-17- 9 Unallotted, Malcona Pet. 1.
10-17-10 Baker, Bell et al 1.
11-17-10 Unallotted, Wilcox & Witton 1.
35-17-10 Buckirot, H. C. Wilson 1.
3-16-10 Fee, J. H. Fisher et al 1.
36-16-10 Burford, Independent & Basset 1.
8-16-12 Townsite, S. W. Anthony 1.
Townsite, A. B. Ice 1.
Monroe, Riverland 11.
Townsite, Suppes 1.
Townsite, Noble O. & G. 1.
Townsite, Henry Oil et al 1.
Townsite, Henry Oil 1.
Townsite, West & Hancox 1.
Townsite, Lebow et al 1.
Townsite, Woodburn et al 1.
Townsite, Stover et al 1.
Townsite, Jordan & Ashley 1.
9-16-12 Penoke, Minnehoma 3.
Felix, Thompson & Black 1.
17-16-12 Funk, R. B. Hartman & Sons 1.
Maxwell, Fox & Iveland 3.
4-14- 9 Fahcoconecy, Phillips Pet. 6.
7-15- 9 Jefferson, Roland Oil 1.
17-15- 9 Wolf, Turman & Atlantic Oil 1.
21-15- 9 Montgomery, Mondt & Clay 1.
29-15- 9 Smith, Carter Oil 1.
13-15-10 Thompson, Enfisco Oil 2.
23-14- 9 Wolf, G. W. Davis et al 1.
29-14- 9 McIntosh, Cosden Oil 1.
4-14-10 Unallotted, Cal Wright 1.
Wright, Skelly Oil 7.
Unallotted, Evans et al.
17-14-10 Peter, Donnelly et al 2.
Johnson, Gladys Belle Oil 1.
McNevins, Waite Phillips 1.
21-14-10 Drake, Burk Grels 3.
32-14-10 Walker, Cosden Oil 2.
17-15- 8 Vassar, Prairie Oil 3.
2-14- 8 Rentie, Prairie 7.
7-14- 7 Bartlett, Prairie Oil 1.

Wells Shut Down

23-19- 8 Harmon, F. O. Howarth 1.
22-16- 8 Wilson, Cortez Oil 6.
29-16- 8 Hawkins, Clayton Lynch et al.
2-15- 8 Henneha, Wilcox O. & G. 10.
8-15- 8 Wilson, Gypsy Oil 3.
7-14- 7 Jack, Waite Phillips 1.
Lewis, Roxana Pet. 1.
Lewis, C. F. Noble Oil 1.
30-19- 9 Jefferson, Asa Bailey et al 2, 3.
17-18- 9 King, H. W. Bartlett 2.
29-18-10 Sloan, Sapulpa Fuel Co. 2.
30-18-10 Smith, Sapulpa Fuel Co. 1.
Colbert, O. P. & R. Co. 1.
13-17-11 McIntosh, A. Sheldon 1-A.
9-16- 9 Childers, Jomac Oil 3, 4.
34-16- 9 Brady, Twin State 1.
35-16- 9 Horner, U. S. Cities Oil 2.
35-16-10 Froe, Hartman & Williams 1.
1-16-11 Anthis, Wilcox & Oswalt 3.
4-15- 9 Wisener, Phillips Pet. 4.
5-15- 9 Rogers, Texas Co. 1.
29-15- 9 Smith, Gadler et al 1.
30-15- 9 Conn, Billingalea et al 2.
1-15-10 Ashbury, H. C. Wilson 1.
Rigs, 33; wells drilling, 99; total, 132.

PAWNEE COUNTY

Rigs

16-20- 6 School, Magnolia 2, 3.
21-20- 6 Ricks, Privett & Sloan 2.
27-20- 6 Ellis, Texas Co. 1.
17-20- 7 Townsite, Clifford & Van Eman 1.
Townsite, Reece et al 4.
Canfield, Steen et al 3.
25-20- 9 Townsite, Thomas et al 1.

Wells Drilling

32-23-3e Robodaux, Magnolia 1.
Miller, Watchorn 1, 5, 6.
4-22-3e Miller, Magnolia 4, 5.
Ely, Magnolia 2.
Arkeketa, Magnolia 1.
Sanders, Magnolia 3.
Miller, Watchorn Oil 4.
5-22-3e Altaffer, Magnolia Pet. 1.
Wolfe, Magnolia 2.
22-23-4e Zoldoskie, Donohoe 1.
5-23-5e Bennett, Haley, Garber & Pulse 2.
25-22- 6 Bell, Victor Oil 1.
1-21- 5 Hill, Chandler & Kelly 1.
32-21- 8 Meyers, Adamson et al 2.
4-20- 5 Davis, Flynn, Morgan & Shaffer 1.
1-20- 6 Josey Oil 1.
8-20- 6 Peck, Josey Oil 1.
8-20- 6 Lawrence, Magnolia 2.
16-20- 6 School, Jim Glenn Oil 3.
21-20- 6 Lesher, Magnolia 1.
Freeman, Josey Oil 1, 2.
22-20- 6 Smith, Westerly Oil 1, 4.
28-20- 6 White, Davis, Davis Drlg. Co. 1.
Rhodes, Josey Oil 1.
8-20- 7 Fleming, Twin State 1, 2, 3.
9-20-7 Clark, J. H. Markham 1.
15-20- 7 Morahan, Bailey et al 1.
16- 20- 7 School, Cosden Oil 1, 3.
17-20- 7 Townsite, Clifford et al 2.
Pettit, Galvez Oil 4.
Townsite, Reece et al 2, 3.
18-20- 7 Butcher, Gawland et al 1.
25-20- 9 Beard, Mutual Oil 12.
8-20-10 Unknown, Shaffer & Mankins 1.
15-20- 7 Ham, Prairie Oil 1.

Wells Shut Down

4-22-3e Miller, Watchorn 1.
26-23-5e Smith, Turman Oil 1.
10-22- 6 Towner, J. H. White et al 1.
26-21- 4 Schermerhorn, Independent Oil & Gas 1.
8-21- 7 Crain, Freeman et al 1.
21-21- 7 Armstrong, Nixon & Flight 1.
20-21- 8 Martin, Rex Oil 4.
31-21- 8 Havercamp, J. B. Greaves 1-A.
14-20- 5 Hill, Haley, Garber & Pulse 1.
16-20- 6 School, Privett & Sloan 1.
4-20- 7 Townsite, Vick Oil 1.
17-20- 7 Pettit, T. E. Mann et al 2.
14-20- 9 Bean, Jones, Holmes & Brown 3.
Rigs, 8; wells drilling, 56; total, 64.

PAYNE COUNTY

Rigs

24-19-1e Jackson, Amerada 1.
9-19-5e Garr, Garr Oil 3.
35-19-5e Laughlin, Josey Oil 5.

Wells Drilling

21-19-1e Lewis, Ponca O. & G. 1.
6-19-4e Brandon, T. B. Slick 1.
35-19-5e Laughlin, Home Gas 1.
36-19-5e Ellis, Josey Oil 4.
17-19-6e Moser, Carter Oil 1.
Douglas, Carter Oil 2.
23-18-3e Derry, Deep Rock Oil 1.
23-18-4e Broyles, Mulberry Oil 2.
1-18-5e Benson, Home Gas 1-A.
1-17-5e Hughes, O'Hern & Hughes 1.

Wells Shut Down

2-20-2e Catt, Colorado Oil 1.
16-17-4e School, Flynn, Morgan & Bailey 1.
Rigs, 3; wells drilling, 12; total, 15.

KAY COUNTY

Rigs

17-19-1w Brookhouser, Vernon Oil 2.
2-26-4e Baum, Schendler 1.
27-25-1w Suiter, McMann Oil 3.
28-25-1w Sl'er, Louis Freedman, 1.
34-25-1w Woods, Amerada Pet. 39.
Beverlin, Comar 8-W, 15-W, 18-W.
35-25-1w Goltry, Carter Oil 13.

Wells Drilling

15-29-1w Branine, McComas & Jarvis 1.
21-29-1w McCormick, Comar Oil 1.
Harvel, Comar Oil 1.
Priboth, Comar Oil 1.
15-28-1w Tranary, Grand Island Oil 1.
4-27-1w Case, Polin & Denny 1.
9-27-1w Brown, Harris & Haise 1.
10-27-1w Crouch, Blackwell O. & G. 1.
17-27-1w Jameson, Carter Oil 1.
21-27-1w Vandever, Marland Oil 1.
13-27-1e School land, P. & R. Corp. 1.
7-27-1e Williams, Comar Oil 1.
27-27-3e Lewis, Alcorn Oil 1.
8-26-2w Vannatta, Day Oil 1.
12-26-2w North, Alcorn 1.
McCullough, Alcorn 1.
28-26-2w Carr, O-Kansas 1.
16-25-2w McFarland, Alcorn 1.
21-25-2w Turk, Carter Oil 2.
27-25-1w Davis, Texas Co. 7.
Suiter, McMan Oil 1, 5.
34-25-1w Woods, Amerada 30, 33, 34, 35, 36, 37, 38.
Endicott, Pennok Oil 2-D, 3-D, 6-D.
Endicott, Comar 2-W, 3-W, 8-W.
Beverlin, Comar Oil 2-W, 3-W, 4-W.
McKee, Wentz Oil 29, 46, 47.
McDaniel, Blackwell Oil 3-C, 7-B, 4-C.
McDaniel, Phillips Pet. 4, 5, 6.
35-25-1w Ogg, Comar Oil 1-W, 4-W, 5-W, 6-W.
Endicott, Comar Oil 2-W, 3-W, 7-W, 8-W, 9-W.
Endicott, Slick, T. B., 1-A, 2-E, 3-E, 4-E, 6-E, 7-E, 8-E.
Goltry, Carter Oil 8, 11, 12.
17-25-2e Mean Bear, Marland 1.
19-25-2e Miller, Marland Oil 1.
4-27-5e Miller, George Boles 6.
Miller, Gypsy Oil 1.
Miller, Laurel Oil 4, 5.

Wells Shut Down

22-29-1w Le Mars, White Eagle O. & R. 1.
11-28-1w Lowery, Oklahoma Northern Oil 1.
16-27-1w Jewell, National Union Oil 2.
Slocum, Ostot Dev. Co. 1.
18-27-1w Johnson, Una Lee Oil 1.
4-25-2w Kreger, Clair Smith 1.
16-25-2w Thomas, Alcorn Oil 1.
McFarland, Alcorn Oil 2.
21-25-2w Thomas, Wentz Oil 1.
27-25-2w Simmons, W. E. Brown Oil 1.
36-25-2w Davis, Marland & Embry 1.
30-25-1w Pool, Bailey & Thornton 1.
14-25-1e Harris, O-Kansas Oil 1.
4-27-5e Harris, Roxana Pet. 7.
Harris, Comar Oil 3.
Rigs, 9; wells drilling, 87; total, 96.

GARFIELD-NOBLE COUNTIES

Rigs

2-24-1w Shawver, Gypsy Oil 40, 43, 90, 91.
Blubaugh, Comar Oil 1-W, 7-W, 8-W, 12-W.
3-24-1w Pettit, Comar Oil 10-W.
2-24-1w Gaume, Comar Oil 8-W, 11-W, 14-W.
21-24-1w Smithesler, Amerada & Champlin 2.
15-24-1w Morris, and Champlin Ref. 2.
30-24-1w Wilkins, Mid-Co. Pet. 1-A.
25-23-1w Burnsides, Jankowsky et al 1.
24-23-4w Walker, Sinclair Oil 25.
Belknal, Sinclair Oil 25.
13-22-3w Butts, Brown & Morris 1.
19-22-3w Crews, Sinclair Oil 7.
30-19-3w Crews, Sinclair 10.
11-21-4w Fee, Beople et al 1.
7-21-3w Kellner, Chaffee 1.

Wells Drilling

2-24-1w Shawver, Gypsy Oil 2, 34, 82, 87, 88, 89.
Blubaugh, Comar Oil 5-W, 9-W, 22-B.
Gaume, Comar Oil 3-W, 4-W, 9-W, 10-W.
3-24-1w Pettit, Comar Oil 6, 9-W, 11-W, 15-W.
Ruzek, Blackwell O. & G. 4-C.
9-24-1w Crober, John Herron 1.
11-24-1w Rence, Healdton Oil 2-A.
McCutcheon, Comar Oil 1.
11-23-2w Ellengood, Tidal Osage Oil 1.
15-23-2w Neal, Tidal Osage Oil 15.
21-23-1w Forman, Walters O. & G. 1.
30-21-1w Grim, Twin State 1.
12-21-3e Sawyer, Ossenbeck & McMann Oil 1.
27-21-3e Dollarhaide, Marland Oil 1.
19-22-3w Crews, Sinclair 14.
Kisner, Sinclair 12.
12-21-4w Schriver, Beople et al 1.
22-21-4w Miller, Alcorn Oil 1.
19-20-5w Ray, Summers & Atlantic 1.

Wells Shut Down

22-24-2w Kirby, Wilkins & Kors 1.
3-24-1w Pettit, Comar Oil 2-W, 18-B.
11-24-1w Rence, Healdton O. & G. 13-B.
20-24-1w Redd, Williams & Day 1.
29-24-1w Case, Mid-Co Pet. 11-A.
20-24-2e Ray, Ossenbeck et al 1.
15-23-2w Washburn, Mid-Co Pet. 13.
1-22-2w White, Frank Kelly et al 1.
17-23-8w Dyche, Jack Reid et al 1.
26-23-7w Cox, Katherine Oil Synd. 1.
6-23-6w Hess, Weir & Wood 1.
16-23-3w School land, Monahan et al 1.
3-22-5w Swiney, J. H. Pringle et al 1.
25-22-4w Hotson, Empire G. & F. 10.
36-22-4w Heim, Rabbits Foot Oil 10.
Heim, Imo Oil 8.
18-27-3w Schroeder, Roxana Pet. 5.
2-21-7w Montgomery, Frank Frantz 1.
31-21-5w Vanderwork, E. A. Summers 1.
7-20-6w Semrad, Hastie, Smith & Jens Marie Oil 1.
13-20-4w Faramel, Summers et al 1.
25-20-4w Rhodes, William King 1.
15-21-2w Sans, Bu-Vi-Bar 1.
Rigs, 23; wells drilling, 57; total, 80.

CARTER COUNTY

Rigs

27-1s-3w Cassidy, Simpson-Fell 1.
28-1s-3w Jennings, Templeman & Frantz 2.
32-1s-3w Johnson, Magnolia 2.
25-2s-3w Jefferson, Twin State 6.
27-2s-3w Fee, C. R. Smith 6.
26-2s-3w Chute, Tidal 4.
31-2s-3w Palmer, Patsey Kirk Oil 5-A.
8-3s-2w McGill, Schermerhorn Oil 2.
16-4s-2w Cruce, Magnolia 19.
28-5s-1e Clay, Amerada Pet. 1.

Wells Drilling

10-1s-3w Gray, Magnolia 1.
18-1s-3w Hardin, Magnolia 1.
27-1s-3w Loftis, Levant Oil 1.
28-1s-3w Champion, Noble-Gault Oil 1.
Jennings, Templeman & Frantz 1.
Jennings, Humble 3, 4.
Gregg, Humble Oil 1.
Parson, Tidal 1, 2, 3.
29-1s-3w Spears, Humble Oil 1.
Spears, Magnolia 1.
33-1s-3w Lusk, Humble Oil 1, 2.
34-1s-3w Parnell, Southern Pet. 1.
25-1s-3w Williams, Magnolia 1.
22-2s-3w Lohman, Wirt Franklin 2.
23-2s-3w Lohman, Magnolia 2, 7.
Williams, Fitzgerald 3.
Smith-Davis, C. R. Smith 2.
Davis, Twin State 1, 2, 4.
25-2s-3w Simpson, Skelly 2.
27-2s-3w Fee, Johnson 5.
35-2s-3w Brooks, Rockland 8, 9.
31-2s-3w Bennett, Magnolia 12.
5-3s-2w Williams, Merrick-Kick Oil 1.
Apple Franglin, Wirt Franklin 3.
8-3s-2w Mullen, Coline Oil 1.
31-3s-1w Walton, Empire G. & F. 1.
9-4s-2w Walker-Hewitt, Humble Oil 14.
22-4s-2w Hefner, Carter Oil 18.
5-5s-2w Lewis, Coline Oil 1.
20-5s-1e Gardner, Amerada Pet. 4.
20-5s-1e Farve, Amerada Pet. 17.
19-1s-2w Movis, McGee 1.
30-3s-1w Brown, Prairie Oil 1.

Wells Shut Down

29-1s-3w Miller, Humble Oil 1.
23-2s-3w Williams, Humble Oil 2.
Townsite, Fred Tucker 1.
25-2s-3w Jefferson, Twin State 4.
27-2s-3w Fee, C. R. Smith 5.
8-3s-2w Harrison, Noble Oil 1.
27-3s-2e Brown, Home Oil 1.
4-4s-3w Jones, Coline Pet. 3.
21-4s-2w Skelly Oil 13.
22-4s-2w Okla-Dillard, Humble Oil 8.
Dillard, Humble Oil 9.
16-4s-1e Bishop, Felmlee Oil 1.
13-5s-3w Beal, Wickemhiser et al 1.
Rigs, 10; wells drilling, 54; total, 64.

STEPHENS-COTTON COUNTIES

Rigs

9-1s-9w Tettleson, Goldline Oil 1.
29-1s-8w Hall, Magnolia 2.

Wells Drilling

6-2n-4w Tollison, Earl C. Frates 1.
19-1s-8w Bridenthal, Ellis Drg. Co. 4.
20-1s-8w Bartley, Magnolia 8.
32-1s-8w Blaydes, Amerada Pet. 11.
33-1s-8w School, Magnolia 18.
Glass, Carter Oil 5.
4-1s-7w Fee, Ballard & Shoptaw 1.
13-2s-8w Mooks, Magnolia 3.
10-2s-7w Selby, Gant & Frantz 1.
18-2s-7w Bristowe, Mid-Kansas 5.
14-2s-6w Norman, Magnolia 1.
22-2s- 1 Adams, Knox & Garvin 1.
13-5s-13 Day, Fisher et al 1.
28-2s-13w Dyer, Carter et al 1.
14-2s-11 Lawler, Steve Linson 1.
22-2s-11 Ballard, Continental Dev. Co. 2.

Wells Shut Down

33-1n-7w Sledge, Rymer & Bennett 1.
23-1n-4w Edwards, Russell, Grimes and Atlantic Oil 1.
24-1s-9w Armstrong, Best of All Oil 1-A.
5-1s-8w Armstead, Gant et al 1.
27-1s-8w Schick, Grisby Oil 1.
33-1s-8w Stephens, Magnolia 15.
34-1s-8w Nigh, McQueen, Winkler et al 3.
17-2s-7w McDaniel, Avant & Anderson 2.
30-2s-7w Enloe, Holbrook et al 1.
11-3s-8w Beale, C. E. Starr 1.
26-25-11 Fox, Jack Shaffer 2.
Rigs, 2; wells drilling, 27; total, 29.

MISCELLANEOUS

Rigs

Woodward County—
4-23n-17w Nordyke, Diamond Drlg. 1.
Kingfisher County—
7-19-5w James, Jens Marie Oil 1.
Logan County—
33-18-3w Quier, Haley & Pioneer Pet. 1.
35-17-4w Field, McMunn & Nixon 1.
Lincoln County—
19-17-3e Sutton, Roy Willis et al 1.
36-15-4e Cull, Ruby et al 1.
12-14-6e Townsite, Union Pet. & Supply 6.
Pontotoc County—
34-5n-6e Roy, Bowles & Smith 1.
3-4n-6e Unknown, American O. & R. 1.
16-4n-6e Unknown, American O. & R. 1.
Grady County—
31-10-8w Unknown, Hawkins & Young 1.
23-5n-8w Edmondson, Skelly 1.
35-5n-8w McCaughtry, Hagerling et al 1.
Caddo County—
35-6n-9w Shunk, Acme Drlg. 1.
11-5n-9w Hedlund, English Drlg. 4.
Jefferson County—
4-6s-5w Seay, Maxwell et al 1.
18-6s-5w Grayson, Heydrick et al 1.
31-6s-5w Seay, Cameron & Anderson 1.
3-7s-7w Seay, Lugg et al 1.

Coal County—
18-2n-9e Hick, Basie Oil 1.
Wells Drilling and Shut Down
(Shut down wells indicated by *)
Grant County—
29-29-4w Ridings, Phillips Pet. 1.
8-27-8w Moon, Midwest & Gulf 1*.
30-27-4w Fuss, Frank Traves et al 1.
14-27-3w Howell, Western States 1*.
22-27-3w Stewart, Western States 4-A.
Lane, Blackwell O. & G. 1.
23-27-3w Crouch, Western States 2.
27-27-3w Lane, Western States 1*.
3-26-6w Asher, C. G. Wrightsman 1.
11-26-5w Bonaham, Tyberant, Broadhurst & Foster 1.
20-26-4w Edwards, Embry & Leright 1*.
22-25-4w Vollmer, Meyers O. & G. 1.
Alfalfa County—
21-27-10 Watts, McGinnis & Ward 1.
25-24-11 Turnbull, Armstrong, Henley & Peffley 1*.
Woods County—
10-25-15 Van Buskirk, Victor Oil 1*.
2-21-24 James, Gage Oil 1*.
10-21-24 Cross, Utility O. & G. 1*.
Ellis County—
32-24-24 Meegan, Utility O. & G. 1*.
22-20-24 Roper, Chicago Okla. 1*.
Major County—
36-22-14 Cheyenne Basin, Texas Prod. Co. 1*.
9-22- 9 Ratcliff, Bradstreet Oil 1.
36-21-11 Gray, Frantz & Slick 1*.
Woodward County—
34-20-20 Bell, Beard O. & G. 1.
Logan County—
32-19-3w Newman, Buford Brim Oil 1.
5-19-2w Ohm, Gilliland Oil 1.
28-18-4w Moore, Franklin Oil Assn. 1.
9-18-2w Wyatt, Bchoma Oil 1*.
28-16-1w Lair, Pluto O. & G. 1*.
36-15-2w Johnson, Okla. Drlg. Co. 1*.
23-14-1e Pritchard, Magnolia 1.
Dewey County—
7-18-15 Chronister, Meyers et al 1*.
22-16-18 Elders, A. D. Morton 1*.
Kingfisher County—
14-17-5w McCord, Casing Royalty Co. 1*.
25-17-5w Dickerson, Carson et al 1*.
30-16-9w Burson, Pansey O. & G. 1*.
31-15-7w Lewis, F. & N. Oil 1*.
17-15-6w Creaves, Chi Oil & Nichols 1.
Blaine County—
26-15-12 Dickerman, Thompson 1*.
21-15-10 Ecklemeier, Okomo Oil 1*.
Cimarron County—
2- 5-5e Schook, Campbell-Riley 1*.
16- 1-7e Wells Ranch, Beaver O. & G. 1*.
Lincoln County—
23-17-3e Young, Roy Willis et al 1*.
28-17-3e Keller, Plateau Oil 1.
20-17-5e Strong, Grimes et al 1*.
16-16-4e Hobson, Wilcox & Oswalt 1*.
23-16-6e Briggs, Day Oil 1.
22-15-2e Harris, F. O. Howarth 1.
17-15-3e Powell, Santrock Drlg Co. 1*.
32-15-4e Dodrill, Magnolia 1.
34-15-5e Smith, Flynn & Morgan.
1-15-6e Bowers, McMann Oil 1.
6-15-6e Earp, Independent O. & G. 1.
15-15-6e Hubbard, Johndahl 1*.
12-14-4e Leake, Pure Oil 1.
20-14-4e Fequay, J. C. Cook 1*.
7-14-5e Ayres, Magnolia 1.
18-14-5e Bray, Magnolia 1.
Wilson, Jennings Bros. 1.
2-14- 6 Schubel, Union Supply and Waite Phillips 1.
11-14- 6 Jackson, Texas Co. 2.
12-14- 6 Townsite, Dowell et al 2*.
Townsite, Willis, et al 1*.
Townsite, Willis et al 3.
Townsite, Union Supply 2.
Townsite, Union Supply 5, 6, 8.
Townsite, Chas. F. Noble 2.
Dowell, J. A. Hull 4.
Townsite, Berry Pet. 1.
Townsite, Wheeler & Webb 1, 2.
Townsite, Hoyt & Wicker 1.
Townsite, Atlas Drlg. Co. 1.
Townsite, Square Deal Oil 1.
De Lasier, J. C. Cook 1.
7-13-3e Ewing, Douglas Oil 1.
18-13-5e Gallagher, Sun Ray 1.
5-13-6e Lewis, Mountain State Oil 1.
14-13-6e Heinzig, P. & R. Corp. 1.
26-12-2e Dodrill, Eugene Costa et al 1*.
8-12 5e Richardson, J. C. Cook 1.
9-14-6e Thomas, Prairie Oil 1.
Pottawatomie County—
4-5n-5e McFarland, Riverside Oil 1*.
13-11n-4e Floyd, Gwynupp et al 1*.
13-10-2e Howell, Ossie Oil 1.
25-10-4e Madgett, North American Oil 1*.
24- 8-4e Stoner, Maud Oil Prod. 1*.
19- 7-4e Neghan, McMann Oil 1*.
18- 7-5e Yinson, Maud Oil Prod. 1*.
10- 6-2e McGahey, Davie Detrick 1.
9- 5-3e Ball, Day Oil 1*.
4- 5-5e Fiddler, Halmond, Osmond et al 1*.
Pontotoc County—
31-5n-5e Lewis, La Salle et al 1.
32-5n-5e Burk, Roy Carter et al 2*.
19-5n-7e Doner, Harper et al 1.
24-4n-4e Floyd, C. J. Wrightsman 1.
5-4n-5e Stovall, Craig et al 1*.
17-4n-6e Witherspoon, American O. & R. 1.
18-4n-6e McClure, Bryan & Gillett 1*.
27-4n-6e Parry, Pilgrim Pet. 1.
34-4n-6e Norris, Smith & Lancaster 1*.
14-4n-7e Norris, Howarth O. & G. 1.
28-4n-7e Falkner, Hughes et al 1*.
34-3n-4e Norris, Haney et al 1*.
15-3n-6e Hays, Galloway et al 1*.
6-3n-7e Lloyd, Lloyd & Smith 1.
Canadian County—
34-13-8w Dawson, Thos. Revelle 1.
2-13.8w Setter, Carroll & Zweicher 1*.
Oklahoma County—
36-11-3w School, Firestone Oil 1.
Cleveland County—
31-10-4w Holland, Garr Oil 1*.
Garvin County—
21-4n-1w Florence, Bedman et al 1*.
10-3n-3w Hattle, Heath & Bauman 1*.
13-2n-3w Dillbeck, Goldenline Oil 1*.
9-1n-3w Purnell, T. P. C. & O. Co. 13.
16-1n-3w Mauldin, Magnolia 4-A.
Orr, Magnolia 9.
18-1n-3w Derdyn, Simms Oil 1*.
35-1n-3w Riddle, T. P. C. & O. Co. 1.
8-1n-2w Franklin, Tidal Osage 1.
18-1n-1e Richardson, Bendern et al 1*.
9-2n-2e Gibson, Black Pet. 1*.
Roger Mills County—
15-15-26w McClure, Twin Hills Oil 1.
3-13-26 Unknown, Trio Oil 1*.

Custer County—
17-13-14w Cutfinger, Magnolia 1.
34-13-14 Unknown, Hoover Oil 1*.
Beckham County—
6- 9-24 Burkholder, J. A. Pringle 1*.
29- 9-23 Baker, Crovery & Cordell 1.
24- 8-22 Unknown, J. R. Limes, 1*.
19- 8-21 Van Vector, Kadane et al 1*.
31- 8-21 Wall, Kouri et al 1*.
Washita County—
33- 8-18 Rice, Sun Ray Aubyme Oil 1*.
9- 8-15 Prestears, McCoy et al 1*.
Greer County—
2-7n-22w Johnson, Neal et al 1*.
26-7n-22w Bowman, White & DeBolt 1*.
17-7n-21w Unknown, Morton & Neal 1.
4-3 -22w Van Vector, Boso & Terrill 1.
Kiowa County—
2-7n-17 Countryman, Aubyme Oil 1*.
13-7n-16 Unknown, Alcorn Oil 1.
20-7 -16 Williams, Conner et al 1.
34-7 -16 Unknown, Conner et al 2.
Caddo County—
35-6n-9w Fugate, Acme Dev. 2.
11-5n-9w Hedlund, Briscoe & Hall 4.
Lackey, Lone Star Gas 4.
Grady County—
35-5n-8w McCaughtry, Carter Oil 1.
17-5 -7w Nall, Nichols et al 1*.
22-5 7w Unknown, Badgett & Hughes 2.
2-4 -8 Taylor, Hay-Garber Drlg. 1.
28-3 -5 Pearcay, Magnolia 1.
18-6 -5 Cook, Langston O. & G. 1*.
Jackson County—
36-2n-23w Unknown, J. D. Wade 1*.
15-1s-23w Snodgrass, J. R. Abernathy 1.
Comanche County—
24-2n-10 Cox, Cherry & Couch 1*.
29-1n-12 Bently, Bently et al 1.
24-1n- 9 Hines, Kidney et al 3.
Tillman County—
11-1n-17 Faulkner, H. G. & H. Oil 1.
10-4s-10 Couch, A. E. Spears 1*.
4-5s-14 Goehler, Schwartz et al 1.
Southern Oklahoma—
Murray County—
2.2n-5e Fine, Black & Thompson 1.
Coal County—
34-2n-9 Payte, Bearman et al 1*.
Jefferson County—
31-4s- 8 Anderson, Shawver, Sutter & Robertson 1*.
9-4s- 4 Mullen Est. Roy Johnson 1.
21-5s- 6 Cowden, Tarkington & Kelsey 1*.
34-5s- 6 Major, Barker et al 1*.
36-5s- 6 Woodwarth, Godley Oil 1.
25-6s- 6 Spring, Magnolia 1.
1-7s- 6 Seay, Humble Oil 1.
33-7s- 6 Stanfield, Landis et al 1*.
4-7s- 5 Seay, Cherry & Couch 1*.
Atoka County—
1-2s- 9 Fee, Torrance et al 1*.
7-2s- 9 Wild, McPherson 1*.
28-2s- 9 Underwood, Wapanucka Dev. 1*.
17-4s-11 Dabney, Hanson et al 1.
Johnson County—
7-4s-4 Trootes, Washita O. & G. 1*.
36-5s-6 Holden, United 8 Oil 1*.
Love County—
17-6s-1w McCluskey, Humble Oil 1.
29-6s.3w Starritt, Sims Oil 1.
11-7s-2e Wilson, Driller Synd. Oil 1*.
Marshall County—
34-6s-7e Franklin, P. H. Oil 1*.
Bryan County—
11-6s- 9 Combs, Lyons et al 1*.
26-7s-11e Hampton, Alexander 1*.
Rigs, 22; wells drilling, 190; total, 212.

KANSAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Montgomery-Wilson	5	440	3	0
Neosho-Allen	0	0	0	0
Miami-Franklin-Anderson	0	0	0	0
Greenwood-Woodson	26	1,664	4	0
Butler	4	35	3	0
Cowley	8	275	4	2
Chautauqua-Elk	1	0	1	0
Miscellaneous	9	125	8	0
Total September	53	2,539	23	2
Total August	102	13,811	39	8
Difference	49	11,272	16	6

Summary of New Operations

County—	Rigs	Drg.	Ttl.
Montgomery-Wilson	8	36	44
Neosho-Allen	2	6	8
Miami-Franklin-Anderson	1	8	9
Greenwood-Woodson	20	33	53
Butler	2	15	17
Cowley	7	46	53
Chautauqua-Elk	1	28	29
Miscellaneous	19	128	147
Total September	60	300	360
Total August	72	230	302
Difference	12	70	58

MONTGOMERY COUNTY

28-32-14 Love, Red Bank Oil 1..... 200
10-31-15 Midkiff, Steinberger Bros. 2.. dry
31-32-14 Huffman, John Harwood 1.... dry
14-33-14 Mills, Tolbert et al 1..... dry
12-33-16 Thompson, Kirs et al 1..... 240

Wells completed..... 5
Production 440
Dry 3
Gas 0

ELK-CHAUTAUQUA COUNTIES

Wells Completed

14-29- 8 Hanna, Roth et al 2..... dry

Wells completed..... 1
Production 0
Dry 1
Gas 0

GREENWOOD COUNTY

Wells Completed

23-24- 9 Halverson, John Roger 1.... 95
18-22-10 Browning, R. G. Gillespie 5.... 75
34-22-13 Hazlett, Bradford-Hazlett et al 7..... 5
14-24-12 Sullivan, Houston-Oklahoma Oil 8..... 30
1-24- 9 Cartwright, Roth & Mission Oil 2..... 35
Heddleson, National Ref. 3... 100
22-24- 9 Hendrickson, Polhamus et al 2 30
Hendrickson, Jake Reverly et al 3..... 20
Hendrickson, Jake Reverly et al 4..... 50
23-24- 9 Osmundson, Gypsy Oil 1..... 20
34-24- 9 Marshall, Polhamus 12..... 150
30-25- 9 Moss, Derby Oil 11..... 200
11-24-12 Dalton, Franklin Oil 14..... dry
20-22-10 Browning, Sinclair Oil 5..... 280
15-23- 9 Teeter, Phillips Pet. 1..... 20
16-23- 9 Teeter, Empire G. & F. 15.... 40
1-24- 9 Cartwright, Roth & Mission Oil 3..... 40
23-24- 9 Halverson, John Rogers 2.... 100
18-22-10 Hughes, Rhodes & Able 1..... dry
13-22-10 Kipfer, Derby Oil & C. B. Davis 1..... 25
22-24- 9 Wiggins, Roger & Mission Oil 6..... 40
23-24- 9 Wiggins, Roger & Mission Oil 4..... 209
Wiggins, Roger & Mission Oil 5..... 60
27-24- 9 Marshall, T. E. Miller et al 2. dry
6-25-13 Diggs, Bisagne et al 2..... 40

Wells completed..... 25
Production 1664
Dry 3
Gas 0

BUTLER COUNTY

Wells Completed

31-29- 7 Blair, Martin & Gray 1..... dry
5-25- 4 Fitch, Vickers et al 1..... 35
10-28- 6 Slaybaugh, Mid-Kansas Oil 1. dry
17-28- 7 Everton, Dutton et al 1..... dry

Wells completed..... 4
Production 35
Dry 3
Gas 0

COWLEY COUNTY

Wells Completed

6-31- 6 Eastman, Southwestern Pet. 4 dry
18-32- 3 Dunn, Bryant & Stinson 1.... dry
24-32- 4 Dilfelter, J. A. Hull 7..... 200
9-35- 6 Eckhardt, Phillips Pet. 1..... dry
5-31- 6 Eastman, Empire G. & F. 1.. gas
6-31- 6 Eastman, Southwestern Pet. 7 75
20-34- 4 Baird, Joe Nathon & Brinn 1 gas
6-33- 3 Albright, Waite Phillips 1.... dry

Wells completed..... 8
Production 275
Dry 4
Gas 2

MISCELLANEOUS

Wells Completed

Chase County—
1-19- 8 Quinn, Muncie Oil 1..... dry
15-22- 9 Hughes, Phillips Pet. 1..... dry

Wells completed..... 2
Production 0
Dry 2
Gas 0

Lincoln County—
25-12-1w Dohl, Turman Oil 1..... dry
Marion County—
8-22- 4 Spier, John Markham 3..... dry
Osborn County
34-10-15 Worley, Liggett et al 1..... dry
Osage County—
6-14-14 Hughes, R. G. Gillespie 1..... dry
Rice County—
35-20-6w Miller, The Prairie Oil 1..... 125
Russell County—
31-12-14 Haize, Lewis Oil 1..... dry
4-13-15 Walbridge, Patton et al 1.... dry
Woodson County—
26-25-14 Bayer, Wrightsman Pet. 1.... dry

Wells completed..... 10
Production 125
Dry 9
Gas 0

MONTGOMERY COUNTY

Rigs

18-32-14 Vaughan, Tolbert & Hazlett 1.
33-32-14 Haines, Red Bank Oil 3.
12-33-16 Thompson, Kors et al 2.
13-33-16 Zutz, Simcox et al 1.
Thompson, Simcox et al 1.
17-33-16 Linscott, J. R. Thompson 1.
25-34-14 Buster, Charles Blye 1.
2-35-13 Noble, Black & Landon 1.

Wells Drilling

23-31-13 Edwards, Sharpless-Stark et al 1.
24-31-13 Dickey, Southwestern Gas 1.
34-31-14 Showalker, Burton & Aken 1.
5-31-15 Scott, Severy & Crandall 1.
10-31-16 Long, Goldrick et al 1.
21-31-17 Tavender, Keithley et al 1.
9-32-14 McVey, Foster et al 1.
28-32-14 Coleman, Landon et al 1.
Love, Red Bank Oil 2.
Coleman, Red Bank Oil 2.
29-32-14 Simmons, Steinberger et al 1.
33-32-14 McGonigao, Tucker & Connelly 1.
McGonigao, Elco Oil 1.
Haines, Red Bank Oil 2.
Good, Homer T. Lamb 2.
16-32-16 Ringle, Reed & King 1.
27-32-17 Parrott, Ark. River Gas 1.
25-33-14 Mason, Vanniman et al 1.
9-33-16 Tanner, Gillespie et al 1.
23-34-15 Truby, O. A. Crane 1.
31-34-15 Reed, Connelly et al 1.
Yoe, Consolidated Oil 1.
Yoe, S. C. Canary 1.
6-35-15 Dynell, S. C. Canary 1.

Wells Shut Down

32-32-14 Morris, O. N. Tucker et al 1.
5-32-15 Crane, Greer et al 1.
18-33-14 Brooks, Dexter & Cook 1.
25-34-13 Patterson, H. H. Nelson et al 2.

WILSON COUNTY

Wells Drilling

23-27-16 York, G. L. Barham et al 1.
20-27-17 Swank, Phipps & Fisher 1.
13-28-15 Morse, Rhodes & French 1.
34-28-15 Farwell, Zack Barnes 1.
3-28-17 Hilton, Burton & Aken 1.
26-29-14 Monson, Bremegar-Spencer-Wilson 1.
1-30-14 Smith, Ladow & Stryker 1.
36-30-15 Small, Elmer P. Sewell 1.
Rigs, 8; wells drilling, 36; total, 44.

GREENWOOD COUNTY

Rigs

28-22-11 Clark, Phillips Pet. 8.
29-23-10 Thrall, Mission Oil & Roth 23.
Thrall, C. E. Roth & W. Phillips 2.
31-23-10 Martindale, Mid-Kansas Oil 8.
32-23-10 McKee, Phillips Pet. 17.
McKee, Phillips Pet. 18.
McKee, Phillips Pet. 19.
Thrall, Mission Oil 5.
5-23-11 Seeley, Phillips Pet. 12.
8-23-11 Clopton, Empire G. & F. 12.
22-24- 9 Hendrickson, Polhamus et al 3.
23-24- 9 Wiggins, Roger & Mission 3.
14-24-12 Sullivan, Houston-Oklahoma Oil 8.
25-25- 8 Jackson, Pierce et al 2.
3-25- 9 Hover, Phillips Pet. 5.
4-25- 9 Hurley, Pure Oil 3.
19-25- 9 Ladd, Mid-Kansas Oil 8.
30-25- 9 Moss, Derby Oil 12.
12-27-10 Cross, Willard Pet. 1.
14-24- 9 Hellman, Prairie Oil 8.

Wells Drilling

10-22-10 Pixlee, Buck et al 1.
19-22-10 Browning, R. G. Gillespie 6.
22-22-11 Cravett, Phillips Pet. 1.
32-22-11 DeMalorig, York State Oil 3.
2-23- 9 Green, Transcontinental 1.
36-23- 9 Teeter, Derby & Simmons 1.
31-23-10 Martindale, Mid-Kansas Oil 11.
34-23-10 Hull, Mission Oil, Roth & Prairie 1.
22-24- 9 Hendrickson, Jake Beverly 5.
23-24- 9 Halverson, Leonard Pet. 2.
27-24- 9 Hill, Fontaine et al 1.
23-24-10 Edwards, John Edwards et al 1.
15-24-12 Johnson, Skelly Oil 2.
12-25- 8 Bickett, Roth & Faurot et al 1.
5-25- 9 Corrington, Basom et al 1.
17-25- 9 Teeter, Hays & Roberts 6.
18-25- 9 Hendrickson, Morgan et al 1.
18-28- 9 Dixon, Jamison et al 1.

Wells Shut Down

7-22-12 Elrod, Elrod et al 1.
1-23-10 Bell, Fisher, Lauck & Moore 1.
29-24- 9 Hoover, Hoover et al 1.
1-25- 9 Hawthorn, Dingee et al 1.
7-25- 9 Wilkinson, S. M. Griggs 1.
19-25- 9 Ladd, Mid-Kansas 4.
Ladd, Mid-Kansas 7.
27-25- 9 Sallyards, Duncan et al 1.
14-25-10 Norman, John Jackson 1.
24-26- 9 Weivshing, Smith & Carlson 1.
26-26- 9 Dermick, Wahm & Ross 1.
28-26-13 Ingersoll, Maitland Oil 1.

WOODSON COUNTY

Wells Shut Down

22-25-14 Fry, Curtis Oil 1.
4-26-14 Lauber, Herman & Oglesby 1.
30-26-17 Solomon, Equity Oil 1.
Rigs, 20; wells drilling, 33; total, 53.

BUTLER COUNTY

Rigs

32-26- 6 Palmer, Foraker et al 1.
27-28- 5 Cameron, Elwell et al 2.

Wells Drilling

36-24- 4 Barkmeyer, Robinson et al 1.
7-26- 5 Higgins, Allen et al 1.
25-27- 4 Skaer, Peoples O. & G. 1.
27-28- 5 Meyers, Ramsey et al 1.
23-28- 7 Brewer, Rice et al 2.
22-29- 3 Nibel, Hartman & Skaer 1.

Wells Shut Down

18-24- 5 Joseph, Kighlinger et al 1.
27-24- 6 Burson, G. Frank & Imperial Oil 1.
34-25- 6 Schwartz, Dick Davidson & B. F. & G. Oil 1.
32-26- 6 Palmer, Sparta Oil 1.
24-27- 4 Weidline, Weidline et al 1.
33-27- 7 Hamilton, Beckers et al 1.
22-28- 6 Pettit, John Sharp 1.
30-29- 3 Robinson, Walters Pet. 1.
12-29- 6 Lammonyon, Tobin et al 1.
Rigs, 2; wells drilling, 15; total, 17.

COWLEY COUNTY

Rigs

1-30- 7 Mahanna, Arkansas Fuel Oil 1.
6-30- 8 Morhamma, Paul Trees 2.
13-32- 4 Llerman, Marland Oil 1.
31-32- 4 Wier, Day & Bunnell 1.
7-32- 5 Crosby, Arkansas Fuel Oil 1.
5-35- 5 Sterling, Springstad & Overlease 1.
10-33- 3 Bower, Alcorn Oil 1.

Wells Drilling

10-30- 3 Carton, Midwest Oil 1.
29-30- 5 Dunbar, Alcorn Oil 1.
35-30- 5 Wray, Royer & Royer 1.
30-30- 6 King, White Eagle O. & R. 1.
31-30- 6 Walker, Lewis Oil 1.
Robbins, Lewis Oil 3.
10-31- 3 Shafer, Trees Bros. 1.
11-31- 3 Clark, Arkansas Fuel Oil 1.
26-31- 3 McKinley, Arkansas Fuel Oil 1.
14-31- 4 Sherwood, Trees Oil 1.
32-31- 4 Brasher, O. W. Dickerson et al 1.
3-31- 5 Swoyer, Vickers & S. H. E. Dev. Co. 1.
18-31- 5 Shannon, Arkansas River Gas 1.
6-31- 6 Eastman, Empire G. & F. 1.
Eastman, Empire G. & F. 3.
Eastman, Empire G. & F. 4
Eastman, Southwestern Pet. 8.
19-23- 3 Carson, T. B. Slick 1.
12-32- 4 Brent, Arkansas Fuel Oil 1.
24-32- 4 Kukuk, Buffalo Trust Co. 7.
Lewis, J. A. Hull 1.
Ditmer, J. A. Hull 3.
36-32- 4 Keithley, Watchorn Oil 1.
21-32- 6 Bolock, Murphy et al 1.
3-33- 3 Poor, Gypsy Oil 1.
4-33- 3 Alexander, Waite Phillips 1.
9-33- 3 Graham, Alcorn Oil 1.
10-33- 3 Wright, Alcorn Oil 1.
17-33- 3 Thurlow, Waite Phillips & Marland Oil 1.
20-33- 3 Backus, Waite Phillips 1.
Nelson, Waite Phillips & Marland Oil 1.
Wertman, Waite Phillips & Marland Oil 4.
Wertman, Waite Phillips & Marland Oil 5.
Wertman, Waite Phillips & Marland Oil 6.
Johnson, Waite Phillips & Marland Oil 1.
Glasgow, Waite Phillips & Marland Oil 4.
29-33- 3 Hansen, Waite Phillips 1.
Johnson, Waite Phillips & Marland 1.
17-34- 3 Baird, Shawver & Elwell 1.
33-34- 3 Bocastow, Rich et al 1.
10-35- 5 Warren, Trees Oil 1.

Wells Shut Down

2430- 6 Ward, Charles Christy 1.
33-30- 7 Clover, Scott et al 1.
34-33- 3 Shehan, Marland & Alcorn Oil 1.
34-33- 4 Dowler, Hartman & Skaer et al 1.
24-33- 6 Sandstrum, Torrence & Torrence 2.
Rigs, 7; wells drilling, 46; total, 53.

ELK-CHAUTAUQUA COUNTIES

Rigs

13-29- 8 Hanna, C. E. Roth et al 3.

Wells Drilling

6-32-10 Aulls, Thompson et al 1.
33-33- 9 Fisher, Jens Marie Oil 1.
36-33-10 Call, C. E. Roth 1.
9-34- 9 Wiley, Pulaski Oil 1.
11-29- 8 Porter, Sinclair Oil 2.
12-29- 8 Porter, C. E. Roth et al 7.
8-29- 9 Thompson, C. C. Nye 1.
24-29-11 Lenty, Leidecker et al 1.
17-29-12 Orr, Anderson et al 1.
12-30- 9 Donnell, Clark Drlg. 2.
28-30-11 Hughes, L. K. Oil 1.
30-30-11 Collyer, Pennok Oil 2.
21-31- 9 J. Stiles, Triplet Oil 1.
14-31-10 Webb, Southwestern Gas 1.

Wells Shut Down

18-32-10 Green, Page et al 1.
32-32-10 Wiggam, Page & McKay 1.
27-32-11 Lannon, H. T. Glidden 1.
1-33- 8 Reed, Matlock et al 1.
11-33-10 Chamberlain, Fisher Oil 1.
36-33-11 Bruen, O'Neal & Bruen 1.
28-29- 9 Smith, Ohio Fuel 2.
Smith, Ohio Fuel 2.
4-29-10 Baughman, Imperial Drg. 1.
10-30- 9 Kyser, Imperial Drlg. 1.
12-30- 9 Brown, Service Oil 1.
19-30- 9 Packard, Ritchey & Moore 1.
25-30-10 Thompson, Southwestern Pet. 1.
22-30- 8 Ewers, Denman Bros. 5.
Rigs, 1; wells drilling, 28; total, 29.

MISCELLANEOUS

Rigs

Coffey County—
33-20-15 Andrews, Sunbeam Pet. 1.
9-21-16 Mitler, Kelly Bros. 1.
Ellis County—
33-15-20 Murphy, B. B. Faler et al 1.
Harvey County—
19-22-2e Godfrey, Stalker et al 1.
5-23-1e Coertz, Union Oil Co. of Colo. 1.
4-23-2e Hawk, Mason & Ralston 3.
Hodgeman County—
19-21-22w Unknown, Krueger et al 1.
Labette County—
26-33-18 Ralston, W. J. Shultz et al 1.
Lincoln County—
29-12- 8 Rowher, Eisenhour et al 1.
Marion County—
30-22- 5 Bennington, Phillips Pet. 1.
Morris County—
32-14- 7 Barber, Kline et al 1.
Ness County—
35-18-21w Ryarsee, Bell & Sarton 1.
Pottawatomie County—
17- 9-12 Stewart, Crawford et al 1.
31- 9-12 Greschaber, Crawford et al 1.
Rice County—
22-19-6w West, Carey & Shearer 1.
Rooks County—
36- 8-16w Brynes, Consolidated Oil Fields Corp. 1.
Sedgwick County—
34-26-1e Jadin, Wichita O. & G. 1.
14-28-2e Landon, E. B. Merriam 1.
Sumner County—
15-35-1e Walker, Floyd O. Haworth 1.

Wells Drilling and Shut Down
(Shut Down Wells Indicated by *)

Barber County—
33-30-14 Hargiss, B. B. Brown 1*.
Barton County—
11-16-12 Schauf, Jasper & Beschka 1*.
27-18-12 Sooy, Cheyenne O. & G. 1*.
31-18-12 Taul, Maynes & Taul 1*.
22-18-13 Everleigh, Mountain States O. & G. 1.
17-19-11 Smith, Huffine et al 1*.
21-19-12 Brown, Streeter & Stearns 1*.
Chase County—
19-19- 8 Holsinger, Alters et al 1*.
19-21- 5 Griffith, Security O. & G. 1*.
21-22- 8 Crocker, J. A. Corbett et al 1.
Clark County—
20-32-21 Morrison, Watchorn O. & G. 1.
Cloud County—
6- 6-4w Murdock, Livingston et al 1*.
Coffey County—
26-19-13 M. I. M. Co., White Eagle Ref. 1.
13-21-15 Allen, Thad O'Day 1*.
14-23-13 Elliott, Manhattan Oil 11*.
11-23-14 Steele, Mannion et al 1*.
15-23-14 Pilcher, Okla. P. & R. Corp. 1*.
Ellis County—
16-11-17 Bemis, Sparks et al 1*.
14-12-16 Smith, Jas. Davis et al 1.
18-13-17 Polifke, J. Alan Harvey 1*.
Ellsworth County—
24-14- 7 Walker, United Pet. 1*.
Finney County—
36-21-30 Wann, Garden City Oil & Gas 1*.
Geary County—
9-12- 6 Wright, Liberty Texas Oil 1*.
30-13- 6 Foster, Liberty Texas Oil 1*.
Graham County—
23- 8-24w Taxton, Keys Bros. & Marine 1*.
Hamilton county—
5-26-41w Ransom, Wood Oil 1.
Harvey County—
27-22- 2e Symons, S. A. Hunter 1.
4-23-2e Masters, Derby Oil 1*.
Hawk, Derby Oil 1.
9-23-2e Gatz, Wahn et al 1*.
11-24-2e Thompson, Shaffer O. & R. 1.
Jefferson County—
13- 9-19 Edwards, Northern Counties 1*.
Kingman County—
34-27-7w Graber, Hale et al 1*.
Labette County—
35-33-17 Fvitts, Lampton & Shannon 1.
7-33-18 Price, Pure Oil 1.
3-34-21 Perkins, Tishouser & Cook 1.
Linclon County—
10-11-6w A. C. Stone, Scott & Collins 1*.
22-11-6w Lewis, Pope & Powell 1*.
16-11-7w Crawford, Amerada Pet. 1.
36-11-10w Kohler, Trees Oil 1.
31-12-10w Lambert, Berry & Rosenthal 1.
36-13- 7w Paul, United Pet. 1*.
19-13- 9w Jellison, Equity Oil 1*.
Lynn County—
4-21-12 Greider, Jennings Bros 1.
McPherson County—
29-18- 2w Anderson, Waugh & Casey 1*.
21-20- 2w Linn, Krown & Krown 1*.
26-21- 5w Thiesson, Ramona Oil 1.
Marion County—
17-21- 4e D. K. Reamey, National Refg. 12.
32-21- 4e Equity Security, Morgan et al 1*.
5-22- 4e Townsend, Watchorn O. & G. 37*.
Mitchell County—
10- 9- 8w F. Beeler, Alcorn Oil 1.
Nemaha County—
19- 3-11 Meyers, Nemaha O. & G. 1*.
Osborne County—
20-10-11w Forman, Delhi Oil 1.
9-10-14w Bealby, Knight et al 1*.
Osage County—
3-15-15 Unknown, Baker et al 1.
27-15-16 Bailey, West et al 1.
8-17-17 Nell Est., Mull-Vit Dev. Co. 1*.
12-18-14 Williams, Moyer et al 1.
11-10-15 St. Marys, Crawford et al 1*.
Reno County—
3-22- 6w Sallee, Hipple & Childs et al 1.

13-23- 8w Short, Reno County O. & G. 1.
2-25- 6w Mohr, Jennings, Pells & Starr 1.
28-25- 6w O'Halloran, George Gano 1*.
5-26- 4w Williams, M. M. Travis et al 1*.
Rice County—
10-18- 6w Walker, Jasper & Beschka 1.
14-20- 6w Wernet, Prairie Oil 1*.
35-19- 6w Dees, Rino Oil 1*.
1-19- 7w Deeds, Pryor & Lockhart 1*.
7-20- 6w Bush, Emerson Carey 1.
21-20- 6w Barnes, Stamey et al 1.
15-21-10w Tawlor, H. T. Proctor et al 1*.
Riley County—
26-10- 6e Marks, Pawnee O. & G. 1*.
20-10- 7e Thierer, Douglass & Youker 1.
Rooks County—
7- 8-20w Saindon, Keys Pet. 1*.
Rush County—
3-16-16w Wallace, Chas. F. Noble 1.
22-18-19w Kirby, Raber et al 1*.
Russell County—
13-13-14 Hill, Prairie Oil 1.
16-12-13 Beatty, Prairie Oil 1.
13-11-13w Popisbill, Sawtelle et al 1*.
29-11-15w Dodge, White Eagle O. & R. 1*.
23-12-11w Dick, Ritchey & Moore 1*.
33-12-11w Cooper, Pomeroy et al 1*.
11-12-12w Murphy, Merriam et al 1*.
36-12-13w Fairchild, Valerius O. & G. 1*.
14-12-14w Hafner, Skelly Oil 1*.
8-12-15w Oswald, Valerius O. & G. 2.*
Oswald, Streeter & Stearns et al 1.
17-12-15w Oswald-Valerius O. & G. 1.
Oswald-Valerius, Valerius O. & G. 2.
20-12-15w Milke, Amerada Pet. 1*.
24-12-15w Haise, P & R. Corp. 1.
24-13-13w Harbaugh, Lee Bullock et al 1*.
1-14-11 Diegroth, Garfield Buel 1.
9-14-15w Mermis, P. & R. Corp. 1.
36-15-13w Seller, Alcorn Oil 1.
Saline County—
29-14- 2w Davis, L. S. Johnson 1*.
15-15- 4w Holmquist, Thralls et al 1*.
Sedgwick County—
27-27- 4w Tilmeyer, Wilcox, Cole & Neff 1.
14-29- 2w McMillen, Curtis & Frost 1.
27-29- 1e Fleshman, Cosden Oil 1.
2-29- 2e Fleming, Higgins 1.
29-29- 2e Hursaker, Bartman & Skaer & Johnson 1
Seward County—
34-34-34w Wood, G. T. C. Dev. & Defender Pet. 1*.
20-33-33w Seeley, Seward O. & G. 1.
Stafford County—
29-21-11w Sifers, King & Langston 1*.
Sumner County—
8-30-2e Stubbs Land Co., Parkins & McKinna 1*.
7-30- 1w Shutter, Ellis et al 1.
16-30- 1w Hitchcock, Champlin Refg. 2.
Hitchcock, Champlin Ref. 1.
17-30-1w Kraft, Champlin Ref. 1.
12-31- 1w Stewart, Phillips Pet. 1.
27-32- 2w Brummett, Phillips Pet. 1.
29-32- 2e Veail, Phillips Pet. 1.
1-33- 1w Ramsey, Tidal Oil 1.
8-33- 3w Felt, Phillips Pet. 1.
25-33- 2e Wood, Brady Bros. 1.
34-34- 1w Hayes, Shawver & Sutter 1*.
3-35- 2e Olson, Prairie Oil 1.
23-34- 2e Padgett, Alcorn Oil 1.
29-34- 2e Works, Phillips Pet. 1.
15-35- 1e Pickett, Floyd O. Haworth 1.
16-35- 1e Stewart, National Union Oil 1.
Trego County—
9-11-22w Kyser, A. D Morton & McCoy 1.
11-11-24w Davis, Keys Bros. & Marine 1*.
5-11-25w Walsh, Keys Pet. Co. 1*.
Walsh, Keys Pet. Co. 2*.
Wabaunsee County—
15-13-12 Hendrickson, Williams et al 1.
Washington County—
9- 5- 5e Wickham, Barnes O. & G. 1*.
Rigs, 19; wells drilling, 128; total, 147.

EAST CENTRAL TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Navarro	36	12,535	11	0	6	27	33
Miscellaneous..	1	0	1	0	4	23	27
Total Sept..	37	12,535	12	0	10	50	60
Total Aug..	38	9,117	14	1	10	89	99
Difference..	1	3,418	2	1	0	39	39

NAVARRO COUNTY
Wells Completed

Brown, McDonald et al 4 125
Green, Smith et al 1 ..... dry
Green, McDonald et al 1 ..... dry
Swink, Atlantic O. P. Co. 4 1200
Allison, Godley Oil 9 50
Elkin, Gulf Prod. Co. 1 ..... dry
Davis, Oxford Oil 3B 175
Davis, Oxford Oil 4B 200
Davis, Peyton et al 2 95
Brown, Sun Oil Co. 8 600
R. R. Davis, Tucker & Fox 4 1580
Springfield, Witherspoon et al 1 ..... dry
Howell, Sims Oil Co. 4 35
Elkins, Gulf Prod. Co. 450
Davis, Rowan et al 2 250
Brown, Sun Oil Co. 13 600
Allison, Simms Oil Co. 2 100
Davis, Tucker et al 4 250
Davis, Tucker & Fox 3 1500
R. R. Davis, Tucker & Fox 6 1400
McGowan, Boyd Oil 2 ..... dry
Harvard, T. & B. V. 1 15
Brown, Moore & Hamil 1 ..... dry
Richland Club, Simms Oil 1 ..... dry
Brown, Sun Oil Co. 8 600
Brown, Sun Oil 14 1000
McKie, Pure Oil 64 800
Ramsey, U. S. Tex Oil D. DeMott 85
Kent, Texas Co. & Magnolia Pet. 12.... dry
Boyd, Bridwell & Gray 1 10
Harvard, T. & B. V. 8 15
Fishing Club, Collins et al 1 ..... dry
Graves, McDonald et al 1 ..... dry
Swink, Atlantic O. P. 3 300
Davis, Tucker & Fox 5 1100

Wells completed 36
Production 12635
Dry 11
Gas 0

LIMESTONE COUNTY

Roach, Trout et al 1 ..... dry

Completed 1
Dry 1

NAVARRO COUNTY
Rigs

Greer, Powell Pet. 1.
Kent, Pure Oil Co. 12.
Boyd, Smith et al 1.
Field Club, Smith & Wheelock 1.
Bounds, O'Rourke et al 1.
Davis, Peyton et al 1.
Davis, Derby Oil 2.
Wells Drilling
Roberts, Patrick et al 1.
McGowan, Boyd Oil Co. 1.
Chapman, McMan Oil 8.
Kenner, Pure Oil 1.
McKie, Pure Oil 65.
Hill, Elliott et al 3.
Ramrey, U. S. Tex Oil Corp. & DeMott 1.
Kent, Texas Co. & Magnolia Pet. 28.
Williamson, Andrews Pet. 2.
Goldman, Neeney & Smith 1.
Harvard, T. & B. V. R. R.
Bounds, Brothers Oil 7.
Longbotham, Snowden & McSweeney 11, 12.
Bounds, Trapshooter Dev. Co. 1.
Allison, Body Oil 1.
Richards, McIntyre et al 1.
Swink, Atlantic O. P. Co. 5, 6.
Swink, Gutman & Appleman 3.
Davis, Meade et al 2.
Swink, Miller Lewis 1.
Brown, Sun Oil Co. 1.
Davis, Tucker et al 1.
Davis, Tucker & Fox 7, 8.
Edgar, Lenoir & Schnaufer 1.
Bledsoe, C. I. Moore 1.
Rigs, 6; wells drilling, 27; total, 33.

MISCELLANEOUS
Rigs

Anderson County—
Turner, Hughes et al 1.
Cass County—
Caster, Gibbs Pet. 1.
Speers, Bankers Trust 1.
Van Zandt County—
Greer, Mariand Refining Co. 1.
Hopkins County—
Davis, Gulf Prod. Co. 1.
Hunt County—
Barnett, Tullal & Kelsey 1.
Milam County—
Sinclair O. & G. 1.
Wells Drilling and Shut Down
(Shut Down Wells Indicated by *)
Anderson County—
Parker, J. E. Williams et al 1*.
Brooks & Auld, Rosser et al 1*.
Morning Plant, Palestine O. & G. 1*.
Bowie County—
Parker, Baldy Springs 1*.
Rochelle, Delaney O. & G. 1*.
LeForte, Mook O. & B. G. 1*.
Taylor, Tri States Oil 1*.
Cass County—
Evans, Caldwell et al 1*.
Cherokee County—
Clapp, Collington Drg. Co. 1*.
Delta County—
Patrick, J. E. McNeill 1.
Franklin County—
Harper, J. E. McNeill 1*.
Falls County—
DeGraffenreid, Myrin et al 1*.
Penny, Edwin Falsey 1*.
Preston, Charles W. Harrison et al 1*.
Stallworth, Myrin & Stallworth 1*.
Peacock, High Banks Drg. Co. 1.
Freestone County—
Gandy, Pratt et al 1.
Pickens, Kechi Pet. 1.
Henderson County—
Bounds, F. Haynes 1.
Eade, Richardson Bros. 1*.
Hopkins County—
Enix, The Texas Co. 1.
Brooks, Kelsey et al 1.
Smith, Cy Borden et al 1*.
Leon County—
Carrington, Mexia Marquest Oil 1*.
Limestone County—
Roach, Trout et al 1*.
Kennedy, F. Frank Smith et al 1.
Rains County—
Dowell, McLaughlin & Lyles 1.
Robertson County—
Wilkerson, J. C. Bland et al 1*.
Titus County—
Antone, Magnolia Pet. 1.
Van Zandt County—
Jones, Mexia Drg. 1*.
Dunbar, Terrell Oil 1*.
Wood County—
Senter, The Texas Co. 1*.
Rigs, 7; wells drilling, 27; total, 34.

NORTH CENTRAL TEXAS

Summary of Wells Completed

District—	Comp.	Prod.	Dry	Gas
Wichita	35	3,550	4	0
Eastland	10	260	3	1
Stephens	12	1,700	4	2
Young County	7	60	6	0
Archer County	46	2,940	12	0
Wildcats	37	2,965	13	7
Total Sept.	137	11,475	42	10
Total August	206	14,377	94	5
Difference	69	2,902	52	5

Summary of New Operations

District—	Rigs	Drg.	Ttl.
Wichita-Wilbarger	12	40	52
Eastland	2	14	16
Stephens	12	29	41
Young	3	9	12
Archer County	10	50	60
Wildcats	17	80	97
Total Sept.	56	222	278
Total August	74	264	338
Difference	18	42	60

WELLS COMPLETED
WICHITA AND WILBARGER COUNTIES

Burnett, Burnett Ranch Oil Co. 7..... 100
Waggoner, Culberson and others 27..... 25
Pierce, Empire Gas & Fuel Co. 5..... 190
Collett, Gulf Prod. Co., 9 15
McCarty, Lee and others 2 325
Waggoner, Magnolia Pet. Co., 38-A.... 15
McCarty, Panhandle Oil & Ref. Co. 6 ... 20
Burnett, Perkins and others 8 90
Waggoner, Rio Bravo Oil Co. 7-E 40
McCarty, United Central Oil Corp. 10.. 75
Jennings, United Prod. Co., 5 40
Peeler, Gardner and others 2 150
Cartleberry, Jerring and others 1 ..... dry
H. & T. C., Magnolia Pet. Co. 64 25
Fisher, Baldwin and others 1 ..... dry
Burnett, Humble Oil & Ref. Co. 3 ... 20
Abernathy, Magnolia Petroleum Co. 7.. 20
Beach, Magnolia Petroleum Co., 6..... 15
Parker, Griswold Oil Co. 4 35
Beach, Magnolia Petroleum Co. 8 20
Donohoe, Pace and others 1 25
Peeler, Bower and others 5 75
Rio Bravo, Magnolia Pet. Co. 37 30
Maer, Petroleum Production Co. 6.... 50
Nance, Ryan Pet. Co. 23 100
Burnett, Perkins and others7 460
Nance, Ryan Petroleum Co., 24 ..... dry
Burnett, Perkins and others 7 460
Weath, Cochran and others 1 10
O'Donohoe, Couch and others 8..... 40
Burnett, Burkland and others 1 ..... dry
McCarty, Homer and others 3 45
Douglas, Magnolia Pet. Co. 9 10
Burnett, Texhoma Oil & Ref. Co. 9-B.. 105
McCarty, United Central Oil Corp. 11.. 150

Wells completed 35
Dry 4
Production 3550

ARCHER COUNTY

Anderson, Barber and others 1 ..... dry
Wilson, Barnes and others 2 ..... dry
Falls Co. school lands, Camp O. & G. 1 dry
Wilson, Camp Oil & Gas Co. 3-B 50
Richardson, Chanault and others 9 60
Miller, Clark and others 5 60
Wilson, Griswold Oil Corp 3-D ..... dry
Ragle, Knight & Hines 3 85
Ragle, Knight & Hines 4 55
Robertson, McGregor and others 3 170
Robertson, Magnolia Petroleum Co. 3.. 85
Richardson, Murchison and others 4.. dry
Richardson, Shamrock Oil Co. 9-B.... 100
Richardson, Swastika Oil Co., 6-C 90
Carter, Tucker and others 5 ..... dry
Krebs, Whitney and others 1 ..... dry
Wilmot, Wilmot Farm Oil Co. 6 70
Wilson, Woodburn Oil Corp. 10-B..... 30
Reilly, Sunshine State Oil & Ref. Co. 1 dry
Perkins, Beninghor, and others 1 ..... dry
Nichols, Featherstone and others 2 190
Nichols, Staley and others 2 50
Llewellyn, McGregor and others 4 70
Scruggs, Clark and others 5 60
Goldsmith, Hobbs and others 3 ..... dry
Goldsmith, Murchison and others 4 60
Campbell, Shamrock Oil Co. 5 100
Goldsmith, Shamrock Oil Co. 4 70
K. & K., Texhoma Oil & Ref. Co. 6... 50
Jackson, Willis and others 4 ..... dry
Andrews, The Texas Co. 1 140
Farmer, Featherstone and others 1..... 45
Scruggs, Clark and others 5 150
Goldsmith, Shamrock Oil Co. 8..... 75
Goldsmith, Shamrock Oil Co. 9 75
Wilson, Barnes and others, 3 60
White, Carter and others 1 100
White, Humphries and others 4 115
Parrish, Jeffers and others 1 ..... dry
Parrish, Magnolia Petroleum Co. 2..... 40
Nichols, Featherstone and others 3 180
Wilmot, Wilmot Farm Oil Co. 7 20
Llewellyn, Magnolia Pet. Co. 4 30
Llewellyn, McGregor and others 1-B... 40
Ragle, Consolidated Oil Co. 2 110
Goldsmith, Shamrock Oil Co. 7 125

Wells completed 46
Dry 12
Production 2940

STEPHENS COUNTY

Sikes, States Oil Corp. 1 ..... gas
Boone, Sun Oil Co. 2 ..... dry
Heathley, The Texas Co. 8 250
Williams, Thompson Oil Co. 4 150
Gardenshire, Christie Brothers 1 20
Winston, Texas Pacific C. & O. Co. 1-B gas
Hudspeth, Brown and others 1 ..... dry
Black, The Texas Co. 20 5
Williamson, States Oil Corp. 1 ..... dry
Henderson, Sinclair Oil & Gas Co. 9.. 5
Houston, Swensondale Oil Co. 1 ..... dry
Caldwell, Prairie Oil & Gas Co. 1..... 1270

Wells completed 12
Dry 4
Gas 2
Production 1700
Gas production 51,000,000

EASTLAND COUNTY

Edison, Magnolia Petroleum Co. 4 10
Gaily, McLester and others 1 ..... dry
Fox, Donnelly and others 1 ..... dry
Webb, Panhandle Oil & Refing Co. 6 dry
Parton, Pennock Oil & Gas Co. 7 5
Fox, Williamson and others 3 40
Amis, Bobo and others 1 ..... gas
Sweeney, Rochelle and others 3-A 105
White, McBride and others 1 20
Bond, Reclamation Oil Co. 2 80

Wells completed 10
Dry 3
Gas 1
Production 260
Gas production 1,000,000

YOUNG COUNTY

Robertson, O'Neal and others 1 ..... dry
Graham, Humble Oil & Ref. Co. 1 ..... dry
Graham, Humble Oil & Ref. Co. 1 ..... dry
Benson, Russell and others 2 60
Baldwin, Litchfield and others 1 ..... dry
Buster, Riley and others 1 ..... dry
Stoffers, Seaboard Oil & Gas Co. 1 ... dry

Wells completed 7
Dry 6
Production 60

WILDCATS

Wheeler County—
Sheldon, Tyrell and others 1 ..... dry
Williams, Whittington and others .... gas
Roberts County—
O'Laughlin, Schenek and others 1 ..... dry
Hutchinson County—
Johnson, Tex-O-Oil Co. 1 ..... gas
Clay County—
Hansard, Blake and others 1 ..... dry
Ashland, Texland Oil Co. 1 ..... dry
Panhandle, Lone Star Gas Co. 10 ..... gas
Panhandle, Lone Star Gas Co. ..... gas
Scott, Sullivan and others 1 5
Montague County—
Bouldin, Texhoma Oil & Ref. Co. 1..... dry
Palo Pinto County—
Wheeler, Owens and Burkett 2 25
Dalton, Buffalo Brazos Oil Co. 1 ..... dry
Brown County—
Gafford, Mahlstedt & Mook Oil Co. ... gas
Chambers, Moore and others 1 10
Moore, Gump and others 1 35
Gains, Mahlstedt & Mook 2 ..... dry
Teston, Moore and others 1 ..... gas
Baxter, Poe and Wilson 1 ..... dry
Chambers, Curry and others 1 30
Crockett County—
Shannon, Crockett Drilling Synd. 1..... dry
University, Levi Smith 1 ..... dry
Grayson County—
Marshall, Shakie and others 1 ..... dry
Throckmorton County—
Todd, Whatley and others 1 ..... gas
Reagan County—
University, Texon Land & Dev. Co. 1...3310
Callahan County—
Albin, Poe and Wilson and others 6... 340

Wells completed 27
Dry 11
Gas 13
Production 1965
Gas production 127,500,000

WICHITA COUNTY
Rigs

Donohoe, Couch and others 8.
Roller, Underwood Drilling Co. 1.
Waggoner, Eureka Drilling Co. 10.
Fassett, Ferguson and others 1.
Rio Bravo, Magnolia Petroleum Co. 39.
Fisher, Meyers and others 1.
Love, Parker and others 1.
McCarty, Robertson and others 1.
Waggoner, Gwynn and others 1.
Nance, Ryan Petroleum Co. 25.
Burnett, Texhoma Oil & Ref. Co. 2-A.
McCarty, United Central Oil Corp. 11.
Wells Drilling
Rhodes, Duncan and others 4.
Parker, Griswold Oil Corp. 5.
Bashara, Clopton and others 1.
Willis, Dow and others 1.
Jenne, Dyer and others 1.
Walling, Gresham and others 1.
Daniels, Grace Oil Co. 10.
Catton, Hunter and others 1.
Myers, Keuhen and others 1.
Evans, Miller and others 1.
Beach, Magnolia Petroleum Co. 9.
Riley, Magnolia Petroleum Co. 106.
Anderson, Magnolia Petroleum Co. 15.
Donohoe, Pace and others 2.
Roller, The Ascott Co. 26.
Donohoe, White and others 2.
Jennings, Apple and others 10.
Jennings, Apple and others 2-B.
Henson, Brewer and others 1.
Burnett, Burnett Ranch Oil Co. 6.
Douglas, Camp Oil & Gas Co. 11.
Overby, Electra Gulf Oil Co. 1.
Jennings, Elliott and others 1.
Pierce, Empire Gas & Fuel Co. 1.
Burnett, Gordon Oil Co. 1.
James, Johnson and others 1.
McCarty, Lee and others 1.
Henson, L. J. K. Oil Co. 1.
Waggoner, Magnolia Petroleum Co. 7.
Waggoner, Mid-Kansas Oil & Gas Co. 1.
Kemp, O'Donohoe and others 1.
Love, Parker and others 1.
Maer, Petroleum Production Co. 7.
Rio Bravo, Rio Bravo Oil Co. 4-C.
Nance, Ryan Petroleum Co. 24.
Burnett, Section Two Oil Co. 3, 4.
McCarty, Underwood Drilling Co. 4.
Maer, Underwood Drilling Co. 6.
McCarty, United Central Oil Corp 12.
Rigs, 12; wells drilling, 40; total, 52.

ARCHER COUNTY
Rigs

Lyles, Carter and others 1.
White, Carter and others 2.
Pease, Humble Oil & Ref. Co. 1.
Morits, Lanning and others 1.
Andrews, White and others 1.
Scruggs, Clark and others 5.
Cowan, Cline and others 1.
Hayter, Flowers and others 1.
Boren, Shamrock Oil Co. 1.
Richardson, Shamrock Oil Co. 4.
Wells Drilling
K. & K., Electra-Gulf Oil Co. 1.
Jackson, Shappell Oil Co. 14.
K. & K., Texhoma Oil & Refining Co. 7.
Wilson, Carter and others 1.
White, Carter and others 2, 3.
Miller, Everetts and others 1.
White, Humphreys and others 5.
Parrish, Kentucky Oil Corp. 1-B, 1-C.
Oil Investments, Inc., Landreth Oil Co. 1.
Parrish, Magnolia Petroleum Co. 3.
Parkey, Maxwell and others 1.
Wilson, Moore and others 1-A.
Wilson, Murchison and others 1.
Nichols, Featherstone and others 4, 5.
Parrish, Robertson and others 1.
Albright, Sheets and others 1.
Miller, Shipley and others 1.
Nichols, Simms Oil Co. 3, 4.
Wilson, Staley and others 7.
Andrews, Sun Oil Co. 1.
White, Tex-O-Kan Oil Co. 3.
Farmer, Cooper and others 1.
Farmer, Evangeline Oil Co. 1.
Ambercrombie, Green and others 1.
Llewellyn, Magnolia Petroleum Co. 5.
Llewellyn, McGregor and others 5.
Tober, Mitcham and others 1.
Llewellyn, Panhandle Oil & Ref. Co. 1.
Boone, Richardson and others 1.
Key, Sunshine State Oil & Ref. Co. 2.
Hausler, Carey and others 1.
Davis, Consolidated Oil Co. 1.
Ragle, Consolidate Oil Co. 3-B, 3-D, 3-C.
Lester, Daniels and others 1.
Cowen, Hart and others 1.
King, Hobbs Oil Co. 1.
White, McLain and others 1.
Harnett, Murchison and others 1.
Holpsek, Nebraska Oil Co. 1.
Benson, Polk and others 1.
Goldsmith, Shamrock Oil Co., 10, 11.
Richardson, Swastika Oil Co. 1.
Herron, World Publishing Co. 1.
Rigs, 10; wells drilling, 50; total, 60.

EASTLAND COUNTY
Rigs

Brashear, Dixie Oil Co. 1.
Fox, Williamson and others 4.
Wells Drilling
Dawson, Adams and others 1.
Lyerla, Arkansas Fuel Oil Co. 3.
Watson, Brothers Oil Co. 1.
Holcomb, Lobough and others 2.
Earnst, Mogul Oil Co. 2.
Motes, Parsons and others 1.
Bond, Reclamation Oil Co. 6.
Quiett, States Oil Corp. 5.
Matthews, Cardinal Oil Co. 2.
McDonald, Grisham and others 1.
McClellan, Riley and others 1.
Rushing, the Texas Dev. Co. 1.
Ramrey, The Texas Co. 1.
Rigs, 2; wells drilling, 14; total, 16.

STEPHENS COUNTY
Rigs

Lowe, Mid-Kansas Oil & Gas Co. 2.
Polan, Carter and others 1.

Dodd, Hails and others 1.
First National Bank, Walker and others 3, 5.
Grimes, Klemfielder and others 1.
Brown, Magnolia Petroleum Co. 7.
Ward, Landreth Oil Co. 1.
Hart, Pender and others 1.
Rogers, Texas Pacific Coal & Oil Co. 7.
Henderson, Scott and others 1.
Sandidge, Welch and others 2.

Wells Drilling

Cobb, Critten and others 6, 7.
Webb, Hoffer Oil Corp. 1.
Brown, Liner and others 2.
Lowe, Mid-Kansas Oil & Gas Co. 3, 4.
Richardson, Mid-Kansas Oil & Gas Co. 3.
Crudington, Pierce and others 1.
Atkins, Prairie Oil & Gas Co. 15.
Sweeney, Rochelle and others 2-A.
First National Bank, Walker and others 4.
Cobb, Weekly Petroleum Co. 1.
Brown, Brown and others 1.
McClure, Barnhart and others 1.
T. & P., Carter and others 1.
Jennings, Carter and others 1.
O'Laughlin, Humble Oil & Refining Co. 1.
Flournoy, Knox-Lewis Oil Co. 1.
Stoker, Lewis Oil Co. 2.
Brown, Magnolia Pet. Co. 9, 2, 5, 6.
Taylor, Magnolia Pet. Co. 1.
Robertson, McLester and others 1.
Jones, Snowden and McSweeney 1.
Curry, The Texas Co. 10.
Hand, Texas Pacific Coal & Oil Co. 1.
Adams, Triplehorn Oil Co. 1.
Rigs, 12; wells drilling, 29; total, 41.

YOUNG COUNTY

Rigs

Mays, Burton and others 1.
Cheney, Monroe and others 1.
Kemp, Olney and others 1.

Wells Drilling

Vernon, Brian and others 1.
Mahoney, Foster and others 2.
Hamilton, Harris and others 1.
Johnson, McGarr and others 1.
Hume, Miller and others 1.
Graham, Reed and others 1.
Willis, Simms Oil Co. 1.
Stovall, Stovall and others 1.
Keithley, Union Oil Co. 1.
Rigs, 3; wells drilling, 9; total, 12.

WILDCATS

Hutchinson County—

Rigs

Smith, Dixon Creek Oil Co. 1.

Wells Drilling

Johnson, Barnum and others 1.
Weatherly, Plains Oil Co. 1.
Bivens, Amarillo Oil Co. 2-B.
Deahl, Prairie Oil & Gas Co. 1.
Smith, Western Enterprise Oil Co. 1.
Whittenburg, Wilson and others 1.

Well Drilling

Moore County—
Masterson, Amarillo Oil Co. 1-A.

Well Drilling

Potter County—
Warick, Amarillo Oil Co. 1.

Rigs

Carson County—
Burnett, Crosby Oil Co. 1.
Burnett, Maryland Oil Co. 1.

Wells Drilling

Burnett, American Refining Co. 1, 3.
Burnett, Dancinger Oil Co. 1.
Burnett, Gates Oil Co. 1.
Burnett, Olsen and others 1.
Burnett, Skelly Oil Co. 1.
Mary Burnett, The Texas Co. 2, 4.

Wells Drilling

Gray County—
Saunders, The Texas Co. 1.
Worley, Wilcox and others 1.
Wilson, Wilcox and others 2.

Wells Drilling

Wheeler County—
George Schneck and others 1.
Nicholson, Union Petroleum Co. 1.
Bowens, Woodley and others 1.

Wells Drilling

Wilbarger County—
Dill, Bridwell and others 1.
Bowen, Castleberry and others 1.
Dill, Dill Farm Oil Co. 1.
Rogers, Magnolia Petroleum Co. 1.
Waggoner, Noble Oil Co. 1.
Bond, Winnepeg Oil Co. 1.

Wells Drilling

Knox County—
Lawson, Evans and others 1.

Wells Drilling

Baylor County—
Shaver, Dallas Oil Co. 1.
Fancher, Moore and others 1.

Rigs

Clay County—
Couch, Cumley and others 1.
Ross, O'Neil and others 1.
Parker, Somers and others 1.

Wells Drilling

Stine, Bowen and others 1.
Stine, Callander and others 1.
Stine, Hart and others 1.
Scaling, Atlantic Oil Co. 1.
Howell, Knox-Finley Development Co. 1.
Panhandle, Lone Star Gas Co. 6.
Martin, Lone Star Gas Co. 20.
Dean, Piedmont Oil Co. 1.
Boddy, Shelton Oil Co. 1.

Wells Drilling

Montague County—
Jordan, Guarantee Fund Oil Co. 1.
Howard, Texhoma Oil & Refining Co. 1.
Gist, The Texas Co. 2-A.
Summerour, Wood and others 2.

Wells Drilling

Grayson County—
Marshall, Johnson and others 1.

Wells Drilling

Throckmorton County—
Stubblefield, Humble Oil & Refining Co. 1.
McKnight, Shamrock Oil Co. 1.
Steel, Young and others 1.

Wells Drilling

Garza County—
Connell, McDaniel and others 1.

Rigs

Shackelford County—
Poindexter, Landreth Prod. Co. 13, 14.
George, Magnolia Petroleum Co. 4.

Wells Drilling

Poindexter, Cerf and others 1.
Sedwick, Kellogg Oil Co. 1.
Lynch, McMahon and others 2.

Rigs

Callahan County—
Cathey, Dutton and others 5, 6, 7.
Finley, Hickey and others 2.

Wells Drilling

Cathey, Blair and others 5.
Moore, Dudley Oil Co. 1.
Huntington, Junior Oil Co. 1.
Snider, Kellogg Drilling Co. 1.
Bailey, Prewitt and others 1.
Belcher, Prewitt and others 1.
Crane, Prewitt and others 1.
White, Prewitt and others 1.
Allen, Shackelford and others 1.
Biggerstaff, Texas Pacific Coal & Oil Co. 1.

Wells Drilling

Mitchell County—
Gist, Eddleman and others 1.
Brown, Harris and others 1.
Coleman, Humphrey and others 1.
Morrison, the California Co. 10, 11.
Abrams, the California Co. 6.
Handley, The Tidal Oil Co. 1.

Rigs

Brown County—
Newton, Davis and others 1.
Chambers, O'Donnell and others 1.

Wells Drilling

Wheeler, Anderson and others 1.
Cox, Avery and others 3.
Newton, Gillman and others 5.
Westerman, Moore and others 1.

Wells Drilling

Comanche County—
Moorman, Ghormely and others 1.
Johnson, Poe and Wilson and others 1.

Palo Pinto County—

Wells Drilling

Mosley, Guarantee Royalty Co. 1.
Slimp, Talbert and others 1.
Stringer, Phillips and others 1.

Rigs

Reagan County—
University, Crockett Drilling Co. 1.
University, University Oil Co. 1.

Wells Drilling

University, Arkansas Fuel Oil Co. 1.
University, Big Lake Oil Co. 12.
University, Texon Land & Dev. Co. 2.
Rigs, 17; wells drilling, 80; total, 97.

N. LOUISIANA-ARKANSAS

Summary

Districts—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	T'tl
Union County (Smackover and El Dorado ..	36	2,512	11	4	16	52	68
Ouachita County (North Smackover)	25	1,697	2	..	15	46	61
Stephens Field (Columbia and Ouachita Counties).	1	20	..	..	1	2	3
Nevada Co.	1	125	..	..	..	..	..
Bellevue ..	2	6	1	..	..	3	3
Caddo	3	105	..	..	2	6	8
Cotton Valley	7	400	..	6	7	14	21
Louisiana wildcats .	17	....	10	7	12	43	55
Arkansas wildcats..	10	....	10	..	6	38	44
September.	102	4,865	34	17	59	204	263
August...	184	30,718	27	25	56	234	290
Difference	82	25,853	7	8	3	30	27

UNION COUNTY, ARKANSAS

Wells Completed

29-16-15 Dumas, Arkansas Fuel Oil Co. 1 ..... dry
35-16-16 Murphy, Bauxite Oil Co. 1..... dry
36-16-16 Murphy, Beggs et al 1..... dry
19-16-15 Alohin, J. W. Clark 2 60
13-16-16 Giller, Crawford & Sebastian 2 dry
13-16-16 Smith, Cross et al 3 40
31-15-16 Stout Lumber Co., Dyer Bros. 1 100
31-15-16 Stout Lumber Co., Dyer Bros. 2 70
1-16-17 Staples, Gilliland Oil Co. 3 20
25-16-16 Burton Gulf Refining Co. A-1 540
2-18-16 Morgan, Hicks et al 1 ..... gas
6-16-16 Goff, Holliday Trustee 5..... 60
32-15-16 Saxon, Humble Oil & Ref. Co. 2 300
9-16-15 Murphy, Keen & Woolf 1 .... dry
8-16-15 Bradford, Magnolia Petroleum Co. 1 ..... gas
13-16-17 Campete - Campbell, Magnolia Petroleum Co. 2 15
3-16-15 Graves, McFarland et al 1 ... gas
6-16-15 Flenniken, Morris Drilling Co. 6 ..... dry
19-16-15 Scott, Ohio Oil Co. 2 90
30-16-16 Alphin, Page et al A-1 ..... dry
4-16-16 Saxon, Pan-American Oil Co. A-4 ..... dry
4-16-16 C. L. Saxon, Pan-American Oil Co. B-1 ..... dry
4-16-16 C. L. Saxon, Pan-American Oil Co. B-2 ..... dry
11-16-15 Alphin, Phillips Petroleum Co. B-2 150
20-16-15 Burns, Pure Oil Co. 2 100
7-17-14 Stephens, Ray Drilling Co. 1.. dry
9-16-16 Meakin, Reliance Drilling Co. 1 17
6-16-16 Rice, Riggs Drilling Co. 3 .. 90
19-16-15 Henderson, Schuler et al 3.... 100
2-16-15 Alphin, Standard Oil Co. 4 ... gas
3-16-15 Alhpin, Standard Oil Co. 8 ... 180
3-16-15 Alphin Standard Oil Co. 14... 150
22-16-15 Lingelbach, Standard Oil Co. 8 180
1-16-17 Smith, Sun Co. 3 50
25-16-16 Burton, United Central Oil Corp. 2 150
15-16-15 Craig, United Central Oil Corp. 2 50

Wells completed 36
Production 2512
Dry 11
Gas 4

OUACHITA COUNTY

31-15-16 Patton, Arkansas Invincible Oil Co. 9 60
25-15-17 Jeffus, Atlantic Oil Producing Co. 4 45
25-15-17 Wells, Atlantic Oil Producing Co. B-3 35
33-15-16 Berry, Crosbie, J. E., 5 150
22-15-16 Cramer, Forest Oil Co. 5..... 175
27-15-16 Cramer, Forest Oil Co. 7 90
30-15-16 McRea, Gilliland Oil Co. 4.... 30
30-15-16 McRea, Gilliland Oil Co. 5.... 30
26-15-17 W. A. Smith, Gilliland Oil Co. 3 30
25-15-17 Wells, Gilliland Oil Co. S-4... 20
36-15-17 Werner, Gulf Refining Co. A-6 10
26-15-17 Smith, Lee, Trustee, 1 40
4-16-15 Berg, Leon et al 1 ..... dry
23-15-16 Patton, Leon et al 3 30
26-15-17 Brown, Magnolia Petroleum Co. 2 65
24-15-17 Fee, Mangus, J. W., 5 30
26-15-17 Jeffus, Nelson, R. P., 3 70
34-15-15 Snyder, Owenwood Oil Corp. 4. 100
30-15-15 Cramer, Reynolds, J. E., 1.... 15
30-15-15 Berg Bros., Simms Oil Co. E-1 300
19-15-16 Chandler, Skelly Oil Co. 5..... 7
33-15-15 Griffin, Standard Oil Co. 4.... 250
30-15-16 LaGrone, Stumph & Todd 3.., 15
20-15-16 Ebenezer, Sutton et al 1 100
17-15-16 Tubervilie, Weaver & Smithwick 1 ..... dry

Wells completed 25
Production 1697
Dry 2

COLUMBIA COUNTY

36-15-20 Rinehart, Magnolia Petroleum Co. 2 20

NEVADA COUNTY

10-14-21 Drake, Autry Oil Co. 1 125

COTTON VALLEY

22-21-10 W. W. Cox, Hude & Aarnes 2. gas
22-21-10 Lindsay, Invincible Oil Co. .... gas
24-21-10 Pardee, Moffatt & Murphy 1... 400
23-21-10 Holloway, Ohio Oil Co. 1 .... gas
22-21-10 Bank of Cotton Valley, Ohio Oil Co. 1 ..... gas
22-21-10 Duhe, Robinson, C. W., 1 .... gas
14-21-10 W. D. Merritt, Woodley Petroleum Co. 1 ..... gas

Wells completed 7
Production 400
Dry 0
Gas 6
Gas production 155,000,000

BELLEVUE

23-19-11 Bliss & Weatherbee, Bliss & Weatherbee F-3 ..... dry
16-19-11 Taylor, Humble Oil & Ref. Co. 2 6

CADDO

14-21-15 Robertshaw, Dixie Oil Co. 14... 75
14-21-15 Robertshaw, Dixie Oil Co. 63 . 20
24-22-15 Caddo Mineral Land Co., Lewis Oil Corp. 4 10

Wells completed 3
Production 105

LOUISIANA WILDCATS

Wells Completed

Bossier—
24-17-12 Smith, Skannail et al 1 ..... dry
13-17-12 Railroad Land Co., Skannail et al 1 ..... gas
23-18-11 Jones, Sneed et al 1 ..... dry

Claiborne—
36-21- 6 Calhoun, Arnett et al 1 ..... dry
20-20- 7 Eastep, Dixie Oil Co. 1 ..... dry
22-19- 5 Fields, Forest Oil Co. 1 ..... dry

De Soto—
3-11-15 Frost Johnson Lumber Co., Ulrey et al 1 ..... dry

Morehouse—
22-20- 5 Feazel Ladel et al 1 ..... gas
35-21- 4 Crossett, Natural Gas Producing Co. 12 ..... gas

Ouachita Parish—
3-18- 5 West Virginia Timber Co., Atlas Oil Co. 2 ..... dry
30-19- 5 Fee, Ladel et al 28 ..... gas
5-19- 5 Fee, Southern Carbon Co. 35... gas
21-19- 5 Fee, Southern Carbon Co. 36... gas
18-19- 5 Gayler, Standard Oil Co. 1 .... gas
7-20- 7 Michim, Ziegin et al 1 ..... dry

Union Parish—
17-23-1w Nelson, Castello et al 1 ..... dry
30-23-2w Brazile, Frankel Bros. 1 ..... dry

ARKANSAS WILDCATS

Calhoun County—
1-15-15 Childress, Ark. Fuel Oil Co. 2. dry

Hempstead County—
24-11-25 King, Columbia-Hope Oil Co. 2 dry

Little River County—
32-11-32 Ludlow, Sullivan O. & G. Co. 2 dry

Nevada County—
27-14-21 Johnson, Doe et al 1 ..... dry
32-11-21 Grayson, Dudley et al 1 ..... dry
9-13-20 Moore & Martin, Wooten et al 1 dry

Ouachita County—
28-14-17 McDaniels, Morefield et al 1 dry

Union County—
9-18-12 Tubervjlle, Borden et al 1.... dry
21-17-15 Miller, Bradley-Cazart 1 .... dry
21-19-12 Little Starks et al 1 ..... dry

UNION COUNTY, ARKANSAS

Rigs

8-16-15 Bilyew, Anderson et al 1.
1-16-17 L. Werner saw mill, Ark. Drilling Co. 3.
7-16-16 Carroll, Chambles Drilling Co. 1.
1-16-17 Neely, H. E. Clark 2.
31-15-16 Stout Lumber Co., Dyer Bros. 3.
1-16-17 Freeman, Estes et al 3.
22-18-14 Terrell, Lemond et al 1.
3-16-15 Graves, Lion Oil & Refining Co. 5.
16-16-15 McRea, McPherson Oil Co. 3.
14-16-15 Ballard, Ohio Oil Co. 3.
16-16-15 Edwards, Owen, trustee 2.
20-16-15 Wilson, Pure Oil Co. 3.
5-16-16 Saxon, Smitherman-McDonald B-4.
6-16-15 McClanahan, Standard Oil Co. 10.
25-16-16 Burton, United Central Oil Corp. 4.
15-16-15 Craig, United Central Oil Corp. 4.

Wells Drilling

33-18-17 Moore, Allday Drilling Co. 1.
29-16-15 Dumas, Arkansas Fuel Oil Co. 2,
19-16-15 Wilson, Black Duke Oil Co. 2.
19-16-15 Alphin J. W. Clark 3.
1-16-17 Neely, Estes et al 2.
1-16-17 Ponder, Estes et al 1.
12-16-16 Kane, Field Operators Co. 1.
36-16-16 Murphy, Flo-Ark Oil Co. 1.
25-16-16 Murphy, Hatcher et al 1.
3-16-15 Graves, Hickman et al 6.
16-16-16 Saxon, Lanier et al 1.
17-16-15 Allgulf, Lion Oil & Refining Co. 4.
1-18-15 Pendleton, Leonard et al 1.
3-16-15 Fee, Lyell et al 5.
2-16-17 J. G. Smith, Magnolia Pet. Co. 1.
13-16-17 Campbell, Magniola Pet. Co. 2.
2-16-17 Smith I., Magnolia Pet Co. 2.
3-16-15 Graves, McFarland et al 4.
25-16-16 Burton, Meek, trustee 3.
10-19-15 Roberts, Montgomery et al 1.
19-16-15 Scott, Ohio Oil Co. 3.
21-16-15 Fox, Packard et al 1.
23-16-15 Murphy, Sam Richardson 3.
6-16-16 Rice Riggs Drilling Co. 4.
23-16-16 Hicks, Smitherman-McDonald 1.
25-16-15 Burton, Star Oil Co. 3.
1-16-17 Stout Lumber Co., Tarver et al 1.
3-16-15 Alphin, Texas Co. 5.
4-16-15 Hays, The Texas Co. 1.
25-16-16 Burton, United Central Oil Corp. 3.
15-16-15 Craig, United Central Oil Corp. 3.
1-15-17 Hodges, Wright et al 2.

Shut Down

8-16-16 Murphy, Ark., Fuel Oil Co. J E-6.
14-19-11 Union Saw Mill, Beery et al 1.
34-17-12 Clark, Bonderant et al 1.
3-18-12 Stegall, Bonderant et al 1.
25-16-16 Burton, Cherokee Petroleum Co. 7.
14-16-16 Thornton, Coker Drilling Co. 1.
22-16-16 Goodwin, Dillon et al 1.
5-17-15 Thompson, East et al 1.
25-16-16 Burton Freeman et al 1.
11-19-12 Teele, Harrell et al 1.
20-16-15 Cook, Harris et al 1.
23-16-16 Dumas, Hunt et al 1.
29-17-14 Smith, Myerscough et al 3.
28-16-16 Dumas, Nilkander et al 1.
7-16-15 Tatum, Plateau Oil Co. 1.
5-16-16 Saxon, Standard Oil Co. B-2.
12-16-17 Hodges, Steel Oil Co. 3.
33-17-13 Burnside, Teter, E. T., trustee 1.
20-16-14 Goodwin, Traffic Oil Co. 1.
1-18-17 Johnson, Wall et al 1.
Rigs, 16; wells drilling 52; total, 68.

OUACHITA COUNTY, ARK.

Rigs

34-15-15 Snyder, Arkansas Fuel Oil Co. 4.
30-15-16 Myar Est., Ark. Invincible Oil Co. 3.
25-15-17 Smith, Atlantic Oil Producing Co. 1.
25-15-17 Wells, Atlantic Oil Prod. Co., B-2; B-5.
22-13-16 Snow Crusader Pipe Line Co. 1.
26-15-17 Jeffus, Freely, Guy 1.
31-15-17 Burton, Giles, trustee 1.
36-15-17 LaGrone, Gilliland Oil Co. S-5.
30-15-16 McRea, Gilliland Oil Co. 6.
32-15-16 Myar estate, Keene & Woolf, 2.
4-16-15 Hays, Marine Oil Co. 1.
30-15-15 Johnson, Pure Oil Co. 2.
20-15-16 Minor, Rowe and Harrell 1.
30-15-15 Caskin, Simms Oil Co. 4.

Wells Drilling

25-15-17 Jeffus, Atlantic Oil Prod. Co. 2.
20-15-16 Rowland, Atlantic Oil Prod. Co. C-1
13-15-17 Copenhaven, Bray-Hawthorne 1.
11-15-17 Elliott, Bray Hawthorne 1.
33-15-15 Berry, J. E. Crosbie 4.
36-15-16 Davidson, J. E. Crosbie 2.
36-15-17 LaGrone, Gilliland Oil Co. S-4.
30-15-16 Myar fee, Gilliland Oil Co. 4.
36-15-17 Smith, W. A., Gilliland Oil Co. 4.
22-15-17 Wells, Gilliland Oil Co. S-5.
26-15-17 McRea, Gilliland Oil Co. 7.
30-15-16 LaGrone, Green et al 1, 2.
29-15-16 Fincher, Hazen et al 3.
36-15-17 Shirey, Herman & Jackson 1.
28-15-16 Hardin, Invaders Oil Co. 1.
26-15-17 Brown, Magnolia Pet. Co. 1.
28-15-16 Hardin, Miller et al 1.
28-15-16 Hardin, Mercury Oil Co. 1.
25-12-16 Eagle Mills Lumber Co., Peltier Oil Co. 2.
28-15-15 Brirter, Pure Oil Co. 7.
29-15-16 Myar, Riggs Drilling Co. 3.
30-15-16 LaGrone, Stumph & Todd 4.
34-15-15 Joyce, Sure Oil Co. 2.
28-15-16 Stringfellow, Sure Oil Co. 1.
28-15-16 Stringfellow, Sure Oil Co. 1.
28-15-16 Hughes, Sutton et al 12.
28-15-16 McElroy, Sutton et al 4.
29-15-16 McElroy, Sutton et al 5.
33-15-15 Berry, The Texas Co. 6.
23-15-17 Anderson, Whittiken et al 4.

Shut Downs

25-15-17 Keller, Kinley et al 1.
28-15-16 Mullins Forest Oil Co. 1.
27-15-16 Mullins, Forest Oil Co. 11.
22-15-17 Riley, Hammon et al 1.
24-15-17 Elliott, Home et al 1.
23-15-17 Green, Hunt and others 1.
5-16-15 Hill, Invaders Oil Co. 1.
21-15-16 Ritchie Est., Johnson Driling Co. 1.
28-15-16 Mullins, Marr Oil Corp. 4.
27-15-16 Mullins, Morris Drilling Co. 2.
5-16-15 Umsted, Olvey et al 1.
27-15-17 Hildreth, Peace et al 1.
35-15-17 Shirey, Smith J. S. 1.
22-15-17 Hoffman, Southern Oil Co. 1.
32-15-15 Goodwin, Wilson Petroleum Co. 1.
Rigs, 15; wells drilling 46; total, 61.

BELLEVUE DISTRICT

Wells Drilling

27-19-11 Bliss & Weatherbee, Bliss & Weatherbee E-7 and E-8.
10-19-11 Roehm, Dixie Oil Co. 1.
Wells drilling, 2.

CADDO

13-21-15 Robertshaw, Dixie Oil Co. 64.
13-21-15 Louisiana State, Dixie Oil Co. 3.

Wells Drilling

13-21-15 Robertshaw, Dixie Oil Co. 43.
5-20-16 Doan-Thigpen Fortuna Oil Co. 12.
14-20-16 Ferry Lake, Gulf Refining Co. 216.
28-21-15 Hobbs, The Texas Co. A-6.

Shut Down

15-23-16 Rodessa Oil & Land Co., La. Tex. Community Oil Co. 1.
9-20-16 Jeems Bayou Hunting & Fishing Club, Reynolds Oil & Gas Co. 4.
Rigs, 2; wells drilling, 6; total, 8.

COTTON VALLEY

Rigs

15-21-10 W. Cox, Gulf Refining Co. 1.
24-21-10 Bodcau Lumber Co., Humble Oil & Refining Co. B-1.
24-21-10 M. S. Davis, Humble Oil & Refining Co. 1.
15-20-10 Hortman, McDowell et al 1.
24-21-10 Pardee, Moffatt & Murphy 2.
22-21-10 Bank of Cotton Valley, Ohio Oil Co. 2 and 3.

Wells Drilling

21-21-10 Gaynor, Alabama Petroleum Co. 1
15-21-10 W. Cox, Fortuna Oil Co. 1.
14-21-10 L. Merritt, Fortuna Oil Co. 2 & 4.
14-21-10 S. J. Merritt, Fortuna Oil Co. 3.
14-21-10 Crichton, Invincible Oil Co. 2.
15-21-10 Bodcau, Ohio Oil Co. 4, 5 6 and 7.
21-21-10 Gaynor, S. S. Raymond et al 1.

Shut Down

17-19-10 Hudson, Olmstead et al 1.
29-12-10 Miller, Palmer Corp. 1.
8-20- 9 Bible, Stack & Eggers 1.
Rigs, 7; wells drilling 14; total 21.

LOUISIANA WILDCATS

Rigs

30-17- 6 Bryan, Roxana Petroleum Co. 1.
18-17-16 Bryson, Wilson et al 1.
10-18-16 Sharp, Brewer & Sewall 1.
22-23-16 Rodessa Oil & Land Co., Rowe-Daniels et al 1.
34-20- 6 Harmon, Pomeroy et al 1.
22-10-2e Urania, Columbia Oil & Gas Co. 1.
33-20- 4 Fee, Ladel et al 29.
35-20- 5 Pratt, Oil Field Exploration Co. 1.
40-20- 4 Trezevant, Ouachita Natural Gas Co. 3.
29-19- 5 Fee, Southern Carbon Co. 33.
6-19-2e Feazel, Jones, Walker & Co. 1.
8-21- 4 Grayling, Natural Gas Producing Co. 2.

Wells Drilling

8-16- 9 Thomas Borden et al 1.
16-14-16 Johnson, Adams, T. C. et al 1.
21-14- 4 Fee, Culver et al 1.
13-22- 7 McElwee, El Dorado Chief Oil Co. 1.
35-23- 6 Farmer, Gulf Refining Co. 1.
36-11-14 Pollock, Greyhound Syndicate 1.
10-11-14 Hewitt-Hicks, Tarver, A. H. 1.
27-21- 4 Crossett, Natural Gas Prod. Co. 13.

20-20- 5 Perry, Amalgamated Oil Co. 5.
16-19- 5 Fee, Ladel et al 26 and 29.
6-19- 5 Fee, Montgomery et al 1.
4-19- 5 Lieber, Palmer Corp. 3.
18-19- 5 Shell, Pelican Gas & Carbon Co. 1.
29-19- 5 Fee, Southern Carbon Co. 37 and 38.
7-19- 5 Fee, Southern Carbon Co. 40.
11-19- 4 Ladel, The Texas Co. 2.
14-20-3e Talton, James et al 1.
8-21-10 Fiske, Arkansas Fuel Oil Co. 1.
23-23-10 Bain Wagon Co., Orion Oil Co. 1.

Shut Down

11-20-13 Bernstein, Armistead trustee 1.
15-23-12 Bodcau Lumber Co., Estes et al 1.
4-18-11 McGuffin, Zink et al 1.
30-19-5 Nickerson, Arkansas Caddo Oil Co. 1.
2-16-15 Gardner-Blades, Caddo Western Oil Co. 1.
23-19-24 Levy Realty & Planting Co. 1.
27-16-14 Alexander & Ledbetter, Crude Oil Co. 1.
6-16-16 Agurs, Proven Production Co. 1.
20-21- 8 Aubry, Block Oil & Gas Co. 1.
1- 7-1w Ball, Grant Parish Petroleum Co. 1.
21-11-2e Urania, Bur Ban Oil Co. 2.
22-11-2e Urania, Gulf Refining Co. A-1.
27-10-2e Louisiana Central Lumber Co., Stovall Drilling Co. 2.
20-10-2e Urania, Urania Petroleum Co. 4.
13-20-3w Barrett, Buckner et al 1.
26-20- 5 Perry, McKenzie et al 1.
13-21-10 Marston, Coushatta Syndicate 1.
2-14-12 Fee, LaGrande et al 3.
25-21-3w Heard, Cargile et al 1.
7-23-1e Frost Johnson Lumber Co., Love et al 1.
18-23-1e Templeton, Palmer, J. F. 1.
17-23-1e Clark Union Parish Drilling Co. 3.
Rigs, 12; wells drilling, 43; total, 55.

COLUMBIA COUNTY

36-15-20 Watson, Magnolia Pet. Co. 1.

Shut Down

13-15-20 Smart, Hickman et al 2.
Wells drilling, 2.

ARKANSAS WILDCATS

Rigs

3-20-24 Red River Land Co., Ken Saw Petroleum Co. 2.
33-10- 6 Jones, Bennett et al 1.
22-14-26 Gillespie, Munn Oil & Gas Co. 1.
8- 4-12 Meek, Hill & Arnold 1.
22-14-26 Gillespie, Munn Oil & Gas Co. 1.
15-14-21 Blacks, Ames et al 1.
10-14-21 Womack, Smitherman-McDonald 4.

Wells Drilling

35-10-20 Burroughs, Southern Drilling Corporation 1.
1-19-21 Williams, Virgol Heath, trustee 1.
31-14-23 Ford, Fullilove Drilling Co. 1.
15-13-29 Goodrun Timber Co., Gaines et al 1.
2-13-31 Allen, Grote et al 1.
31-11-20 Lester Mill Co., Greeson et al 1.
11-12-23 Eaves Murry et al 1.

Shut Down

4-16- 7 Fee, Spoonse et al 1.
26-16-13 Freeman-Smith, Harris & Bickley, 1.
22- 9-10 Plumer, Markel Syndicate 1.
18-11-11 Word, Stark & O'Mara 1.
23-18-23 Robinson, Brown et al 1.
12-17-22 Sauter, Hargis et al 1.
30-19-18 Hays, Hosey-McDonald 1.
12-17-22 Sorrell, Johnson et al 1.
20-16-18 Watts, Miller et al 1.
15-18-20 Davis, Phillips et al 1.
7-19-19 Emerson, Russell & Kent 1.
35-18-19 Duffer, Smith & Compton 1.
10-13- 6 Karnes, Graves et al 1.
12-13- 6 Trotter, King & Wilson 1.
21-14- 7 Spencer, Ratcliff et al 1.
5-13- 8 Harris, Rhodes et al 1.
23-13- 6 Fee, Stenke et al 1.
8- 6-11 Pike, Haley & Evans 1.
17-11-25 Nichols, Hempstead Oil Co. 1.
17-12-23 Yates, Orr et al 1.
36-12-27 Adams Simmons, G. W., trustee 1.
7- 3-10 Hinsley, DeCou Oil Co. 1.
25-16-25 Renick, Wilcox et al 1.
10-11-31 Hawkins, Johnson et al 1.
29-13-29 Toland Taylor, Red River Valley 1.
33-14-29 Thompson, Kress, A. G. 1.
12-13-21 Honer, Kenark Oil Co. 1.
17-10-22 Cornelius, Lockhart et al 2.
10-12-10 Henry, Prescott Oil Co. 2.
15-14-21 Butcher, Steel & Sandlin 1
1-10-23 Suckle, Wiseman et al 1.

GULF COAST

Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Batson	8	115	3	0	1	5	6
Big Creek	2	2,500	1	0	1	2	3
Blue Ridge	2	1,000	1	0	0	2	2
Barber Hill	1	0	1	0	0	0	0
Damon Mound	1	0	1	0	0	2	2
Edgerly (La.)	0	0	0	0	0	1	1
Goose Creek	9	1,550	3	0	3	14	17
Humble	2	250	1	0	0	4	4
Hull	13	2,265	3	0	2	15	17
Jennings (La.)	0	0	0	0	0	5	5
Markham	2	110	0	0	0	2	2
Orange	8	4,275	4	0	2	18	20
Pierce Jct.	2	25	1	0	0	1	1
Spindletop	3	305	0	0	0	3	3
Saratoga	6	67	2	0	0	3	3
Sour Lake	4	45	2	0	2	4	6
Vinton (La.)	2	10	2	0	1	9	10
W. Columbia	3	7.060	1	0	0	3	3
*Miscellaneous (Gulf Coast)	12	*3,000	11	0	10	24	34
Total Sept...	79	22,617	37	0	22	117	139
Total Aug..	103	21,525	32	0	25	118	143
Difference..	24	1,092	5	0	3	1	4

*3,000-bbl. well of Vacuum Oil Co. in Galcasieu Parish, Louisiana.

Southwest Fields—							
Luling	11	5,815	0	0	7	23	30
Laredo	6	350	1	0	6	11	17
Somerset	0	0	0	0	0	3	3
Calliham	5	70	0	3	4	8	12
Rockdale-Minerva	7	60	0	0	1	4	5
Miscellaneous..	5	0	2	3	91	342	433
Total Sept..	34	6,295	3	6	109	391	500
Total Aug..	46	13,335	4	3	110	403	513
Difference..	12	7,040	1	3	1	12	13
Grand total Sept.	113	28,912	40	6	131	508	639
Grand total Aug.	149	34,860	36	5	135	521	656
Difference..	36	5,948	40	1	4	13	17

BATSON

Wells Completed

Milhome, S. R. Buchanan, 77 5
Allen, East Batson 8 20
Allen, East Batson Oil, 9 15
Paraffine, Sun Co., 73 ..... dry
Trustee, Duetser Oil Co., 10 ..... abd
BBBC, Paraffine Oil, 2 10
Donohoe, W. B. Flynn, 1 ..... dry
Phoenix, Gulf Prod. 13 65

Wells completed 8
Production 115
Dry 3

BIG CREEK

Davis, Gulf Prod. Snowden and McSweeney, 15 2500
Wheat, Gulf Prod., Snowden and McSweeney, 7 ..... abd

Wells completed 2
Production 2500
Abandoned 1

BLUE RIDGE

West-Schenck, Gulf Prod. 5 ..... abd
Robinson, The Texas Co., 12 1000

Wells completed 2
Production 1000
Abandoned 1

BARBER HILL

McKinney, Kirby Pet & Bennett, 1 ..... abd

Wells completed and abandoned 1

DAMON MOUND

Smith, Humble Oil & Refg., 1 ..... abd

Wells completed and abandoned 1

GOOSE CREEK

Gaillard, Gulf Coast & United Central Oil, 28 ..... abd
Wright, Southern Explon, 7 200
Sweet, Humble Oil & Refg, 26 200
Smith, Humble Oil & Refg, 56 300
State and, Gulf Prod. 15 100
Hirsch, Gulf Prod., 3 ..... abd
Wright, Gulf Prod., 11-A 600
Duke, Inca Prod, 1 (wo) 150
Dannebaum, La Rue Oil, 1 ..... abd

Wells completed 9
Production 1550
Abandoned 3

HUMBLE

Crow, Louisiana parties 1 (wo) 250
Lee, Harain and others 1 ..... wtr

Wells completed 2
Production 250
Salt water 1

HULL

Hannah, Texas-Vacuum Oil, 3 100
Dolbear, Republic-Houston Oil, 89 100
Merchant, Yount-Lee Oil Co. 10 ..... sw
Mecom, Mecom Oil, 6 65
Mecom, Mecom Oil, 7 125
Baldwin, Gulf Prod., 10 125
Phoenix, Gulf Prod., 36 100
Phoenix, Gulf Prod., 29 ..... sw
Barngrover, Houston Prod., 12 1600
Cantor, Red Cantor Oil, 3 ..... abd
Merchant, Higgins Oil & Fuel, 1 50

Wells completed 11
Production 2265
Salt water and abandoned 3

MARKHAM

Myers, Rycade Pet. 2 60
Smith, Powers Prod., 1-B 50

Wells completed 2
Production 110

ORANGE

Chesson, Mutual Oil, 13 4000
Chesson, Mutual Oil, 5 ..... sw
Hager-Moore, Gulf Prod., 8 150
McLean, Brownie Babbittee Oil 2 25
Winifree, Humble Oil & Refg., 7 ..... sw
Carbello, Humble Oil & Refg. 1 (wo) 100
Chesson, Orange Pet., 3 ..... dry
Winifree, Orange Pet., 3 ..... abd

Wells completed 8
Production 4275
Abandoned and salt water 4

PIERCE JUNCTION

Fitzsimmons, Texas Exploration, 6 (wo) 25
Ross, Atlantic Oil Prod, 1 ..... abd

Wells completed 2
Production 25
Abandoned 1

SPINDLETOP

Lowery, Wonder Oil 2 10
Gladys, Gulf Production 208 275
Gladys, Sheffield et al 1 20

Wells completed 3
Production 305

SARATOGA

—— Rio Bravo Oil 10-B ..... dry
Kirby Weldon Oil 5 12
Hooks, San Bernard Oil 7 wo) 3L
Fee, Cotton Oil 12 15
Fee, Sun Co. 171 5
Lewis, Paggi Brothers 5 ..... abd

Wells completed 6
Production 67
Dry 2

SOUR LAKE

Fee, Minor Oil 73 ..... abd
Bass & Eastman, Sun Co. 58 20
Fee, The Texas Co. 228 25
Hardin, Lakeview Oil 40 ..... sw

Wells completed 4
Production 45
Abandoned and salt water 2

VINTON

Gray, Marrs McLean 5 ..... sw
Parks, Wilson & Tucker 2 (wo) 50
Rescue, Vinton Pet. 13 ..... sw

Wells completed 3
Production 50
Salt water 2

WEST COLUMBIA

Hogg, The Texas Co., 80 7000
T-Wyo, Humble Oil & Refg., 9 60
Badge, Humble Oil & Ref., 2 ..... sw

Wells completed 3
Production 7060
Salt water 1

MISCELLANEOUS

Angelina County—
Henderson, Paggi Bros. Oil, 1 ..... abd
Brazos County—
Williams, Danciger and others, 1 ..... abd
Duval County—
Peters, Iowa-Okla-Tex Oil 2 ..... abd
Fort Bend County—
Wisom, Rycade Pet, 1 ..... abd
Galveston County—
High Island, Smith, Gulf Prod, 1 ..... abd
Harris County—
Hockley, Warren, Texas Expln, 17 ..... abd
Jefferson County—
Pipkin, Houston Oil, 9 ..... abd
Staiti, Houston Oil, 4 ..... abd
Liberty County—
South of Devers, Gulf Prod, 2 ..... abd
Matagorda County
Caney land, Gulf Prod., 1 ..... abd

SOUTH LOUISIANA

Calcasieu Parish—
Miller, Vacuum Oil, 1 3000
Evangeline Parish—
Manuel, Invincible Oil, 1 ..... abd

Wells completed 12
Production 3000
Abandoned 11

SOUTHWEST FIELDS

Luling—
Allen, United North & South Oil, 33 ... 400
Baker, United North & South Oil, 26 ... 1200
Baker, United North & South Oil, 21 ... 2500
Hardeman, United North & South Oil 17 200
Lee Byrd, United North & South, 5 ... 200
Shanklin, United North & South Oil, 3 .. 140
Shanklin, United North & South Oil, 4 .. 150
Schubert, Magnolia Pet, 10 75
Fields, Beauchamp Pet., 3 700
Harris, H. C. Thomas, 3 100
McKean, Grayburg Oil, 12 150

Wells completed 11
Production 5815
Laredo—
E. C. Mant, 1 ..... dry
Calumet Pet., 1 ..... water
Magnolia Pet., 9 75
Olson Oil, 4 100
Carnahan P. & R., 60 100
Lucas-Kirkpatrick, 6 75

Wells completed 6
Production 350
Dry and water 2
Calliham—
Lark, Wilkerson and Lightfoot, 2 40
Stitz, Holliday and others, 1 ..... gas
Nichols, Black Panther Oil 2 ..... gas
Lark, Wilkerson and Lightfoot, 5 ..... gas
Lark, Lowrie and Co., 2 30

Wells completed 5
Production 70
Gas 3
Rockdale-Minerva—
Fee, Roundtree Oil, 9 6
Moody, Lowry and Wilson, 2 4
Phillips, Lee & Phillips, 2 8
Phillips, Noarck Oil, 1 14
Leitz, J. E. Lee, 1 10
Bauer, Dr. Sessions, 3 12
Bauer, Dr. Sessions, 4 6

Wells completed 7
Production 60

MISCELLANEOUS

Bexar County—
North of Carpenter, W. L. McClehan, 1 abd
Crockett County—
Harris, Mid-Kansas Oil & Gas, 1 ..... abd
Live Oak County
Cartwright, Houston Oil, 5 ..... gas
San Patricio County—
Miller, Plateau Oil, 1 ..... gas
Jim Hogg County—
Mendoza, Webber & Farris, 2 ..... gas

Wells completed 5
Gas 3
Abandoned 2

RIGS AND WELLS DRILLING

BATSON

Rigs

Counselman, East Batson Oil 3

Drilling.

Milhome, S. R. Buchanan 78.
Wise, Adams Oil 80.
King, Cavitt and others 1.
Paraffine, Sun Co. 73.
Trustee, Duetser Oil 10.
Rigs, 1; wells drilling, 5; total, 6.

BLUE RIDGE

Drilling

Invincible, Gulf Prod. 3.
Blakely, Gulf Prod. 9-B.
Wells drilling, 2.

BIG CREEK.

Rigs.

Ahlers, Rich and others 2.

Drilling.

Davis, Gulf Prod. 12dd; 16.
Texas, Union Sulphur 2.
Rigs, 1; wells drilling 2; total, 3.

DAMON MOUND.

Drilling.

Gallagher, Humble Oil & Ref. Co. 4 (wo).
Cave, Sinclair Oil & Gas 1.
Wells drilling, 2.

EDGERLY.

Drilling.

Lillard, G. W. Gray 13 (wo).
Wells drilling, 1.

GOOSE CREEK

Drilling.

Jones, Humble Oil & Ref. 5.
Duke, Inca Prod. 2.
Smith, Gulf prod. 11.

Drilling.

Smith, Humble Oil & Ref. 59.
Tabb, Humble Oil & Ref. 11.
Galliard, Gulf Coast-United Central 31 (wo)
Bartlett Smith, Sun Co. 8
Bryan, Copeland Oil 6.
Gillette, Marshall & Allen 1 sd.
Busch, Hisgen Pet. 2.
Wright, Southern Expln 6, 8.
Hirsch, Gulf prod. 4.
Wright, Gulf Prod. 21-A.
State land, Gulf Prod. 11-15.
Rigs, 3; wells drilling, 14; total, 17.

HUMBLE.

Drilling.

Hermann, Burley Oil 31.
Cherry, Webb Oil 26.
Horn, Marsilas Brothers 1.
Bissonett, Deering and others 2.
Wells drilling, 4.

HULL

Rigs

Hannah, Humble Oil & Ref. 1-B.
Phoenix, Gulf Prod. 17 (wo).

Drilling.

Hannah, Humble Oil & Ref. 1.
Hooks, Humble Oil & Ref. 10.
Republic, Higgins Oil & Fuel 1.
Dolbear, Republic Prod 67 (wo); 89, 91, 92.
Merchant, Yount-Lee Oil 10 dlg. dpr.
Hannah, Texas-Vacuum Oil 3 d. d.
Hannah Fee, Gulf Prod. 15.
Scarborough, Gulf Prod. 7 (wo) 13.
Thomas Fee, Gulf Prod. 6, 7.
Morris-Phillips, Gulf Prod. 12 (wo.)
Rigs, 2; wells drilling, 15; total, 17.
Clement, Gulf Ref. 34.

JENNINGS

Drilling.

Martin, R. N. Hines, 3 (wo).
Latrielle, The Texas Company 43.
S. F. S., Caladia Prod. 41.
Chgo-Jennings, F. I. Getty 11.
Wells drilling, 5.

MARKHAM

Drilling.

Sisk, Rycade Pet. 1.
Hudson, Rycade Pet. 2.
Wells drilling, 2.

ORANGE

Rigs.

Cow Bayou, Rycade Pet. 3.
Berwicki Orange Pet. Co. 3 (wo.)

Drilling

Winifree, Amn National Oil 1 ad.
Brown, Brownie Babbittee Oil 4.
McLean, Brownie Babbittee Oil 5.
Carbello, Edgerly Pet. 10.
Cow Bayou, Rycade Pet. 1-E (wo); 5, 8, 14.
Chesson, Mutual Oil, 3 5 (wo).
Kato, the Sun Co. 1.
Brown, the Sun Co. 5.
Gunstream, the Sun Co. 4.
Hager-Moore, Gulf Prod. 11.
Consolidated, Gulf Prod. 2.
Kishi-Lang, Gulf Prod. 8-A.
Granger, Gulf Prod. 1.
Winifree, Gulf Prod. 5-A.
Pevito, Gulf Prod. 6.
Rigs, 2; wells drilling, 18; total, 20.

PIERCE JUNCTION

Drilling.

Taylor, Gulf Prod. 16.
Wells drilling, 1.

SPINDLETOP

Drilling.

Gladys, Rycade Pet. 1.
Gladys, Sheffield and others 2.
Gladys, Gulf Prod. 209.
Wells drilling, 3.

SARATOGA

Drilling.

Kirby, Weldon Oil Co. 6.
Bright, Sun Co. 172.
——— Rio Bravo Oil, 311-B.
Wells drilling, 3.

Rigs.

Fee, The Texas Co. 224.
Minor, Lakeview Oil, 26.

Drilling.

Brown, E. C. Hankamer 1.
Hardin, Humble Oil & Ref. 38.
B & E, Sun Co. 59
Rio Bravo, J. H. Antillery 2.
Rigs, 2; wells drilling, 4; total, 6.

VINTON.

Rigs

Gray, Marrs McLean 7 (wo).

Drilling.

Gray, Gulf Ref. 2.
Weeks, Just Oil & Ref 1.
Lyons, Just Oil & Ref. 2.
M. Gray, The Texas Co. 1.
Gray, The Texas Co. 6.
B. Gray, Edgerly Pet. 1.
Harmony, Vinton Pet. 13.
Rescue, Vinton Pet. 3.
Rigs, 1; wells drilling, 9; total, 10.

WEST COLUMBIA.

Drilling.

Robertson, the Sun Co. 5 dd.
Tom Hogg, Gulf Prod. 6.
Hogg, The Texas Co. 78.
Wells drilling, 3.

SOUTHWEST FIELDS.

Luling.

Rigs

Thomas, Putnam and others 1.
River Bed, Ditter and others 1.
Fields, C. E. Anderson 1.
McNeal, Calif men 1, 2.
Branyon, United N & S 1.
Purcell, Gulf Prod. 1.

Drilling.

Manford, United North & South 2.
Allen, Grayburg Oil 6.
Lillard, Rydal Oil 1.
Roberts, U. N. & S. 4.
Allen, United North and South 10-A.
L. Byrd, United North and South 10.
Rios, United North and South 9-A.
Trammel, United North and South 11.
Kelly, United North and South 1.
Schubert, Magnolia Petroleum 11.
Gideon United North and South 3, dpng.
Hardeman, United North and South 8.
Tabor, United North and South 17.
Fields, Beauchamp Pet. 5.
Baker, United North and South 22, 23.
Shanklin, United North and South 6.
Allen, J. K. Hughes Development 30.
Moore, United North and South 16, 11.
Jones, Walhunda Oil 1.
Harris, Walhunda Oil 1.
Harris, H. C. Thoman, 2, deepening.
Rigs, 7; wells drilling, 23; total, 30.

LAREDO

Rigs

Lucas, Kirkpatrick 5, 6.

Andrews, Witherspoon Oil 1.
Garcia, M. Bennett 7 8.
Garcia, Alonzo Oil 1.

Wells Drilling

Lucas, Kirkpatrick 4, shut down.
Garcia, Neuva Oil 3.
Garcia, Wheatley Oil 8.
Bruni, Cole Petroleum 5.
Barnsley, Carolina-Texas Oil 6.
—— Christian Sprague 1.
—— Alonzo Jr. Oil 5, 6.
—— Richmond-Garcia Oil 6.
Wolcott, Magnolia Pet. 12.
Walker, H. H. Palmer, 1 shut down.
Rigs, 6; wells drilling, 11; total, 17.

SOMERSET

Wells Drilling

Kilborn, Idaho Oil 9.
Hoskins, Underwood et al 1.
Smith, Helvetia Oil 22.
Wells drilling, 3.

CALLIHAM

Rigs

Lark, Southern Natural Gas 10.
Brown, Grubstake Investment 4.
Cox South Texas Oil 4.
Callham, Three Rivers Oil 3.

Wells Drilling

Lark, Southern Natural Gas 9.
Hicks, Coquet et al 1.
Frio, Coyle-Concord Oil 3, 4.
Jacobs, Grubstake Investment 3.
Callham, Maas Oil 1.
Jacobs, George Pickett 1.
Mahoney, Kollatt et al 1, shut down.
Rigs, 4; wells drilling, 8; total, 12.

ROCKDALE-MINERVA

Rigs

Miller, Sinclair Oil & Gas 1.

Wells Drilling

Sterliski, Noark Oil 1-A.
Glass, Von Gotem et al 1.
Rockdale, Bartlett Oil 1.
Bauer, Dr. Sessions 3, 4.
Rigs, 1; wells drilling, 4; total 5.

ROCKY MOUNTAIN AREA

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Big Muddy ..	0	0	0	0	0	4	4
Salt Creek ..	97	16,613	0	0	72	100	172
Lance Creek .	0	0	0	0	0	5	5
Big Horn Basin	2	15	1	0	0	59	59
Lost Soldier .	4	395	0	2	6	44	50
Rock River . .	0	0	0	0	1	21	22
Fremont Co. .	2	95	0	0	0	26	26
Osage	1	20	0	0	6	15	21
Natrona Co. .	2	100	0	1	0	26	26
Lincoln Co. ..	0	0	0	0	2	8	10
Baxter Basin.	2	0	0	0	2	13	15
Miscellaneous.	0	0	0	0	0	18	18
Total Sept..	110	17,238	1	5	89	339	428
Total Aug..	78	7,525	5	4	96	309	405
Difference.	32	9,713	4	1	7	30	23

MONTANA

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Sunburst	20	5,200	5	2	14	40	54
*Miscellaneous	0	0	0	0	9	98	107
Total Sept..	20	5,200	5	2	23	138	161
Total Aug..	24	3,022	5	1	25	131	156
Difference .	4	2,178	0	1	2	7	5

*Cat Creek included in miscellaneous Montana.

COLORADO

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
All fields....	2	3,000	1	0	8	46	52
August	3	2,000	1	1	9	44	53
Difference .	1	1,000	0	1	1	2	1

UTAH

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
All fields	0	0	0	0	2	25	27

No change from August figures.

NEW MEXICO

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
All fields ...	0	0	0	0	3	23	26
August	0	0	0	0	2	18	20
Difference .	0	0	0	0	1	5	6

WELLS COMPLETED

17-39-78 Tract G. Ohio Oil Co. 2..... 200
1-39-79 Dain, Ohio Oil Co. 17 20
12-39-79 Castle Rock Oil Co. 10..... 25
26-39-78 Tract ET, Ohio Oil 6..... 20
25-40-79 Wyo. Oil Fields Co. 13A..... 337
25-40-79 Wyo. Oil Fields Co. 16A..... 125
25-40-79 Wyo. Oil Fields Co. 34X.....6000
14-40-79 Wyo. Associated 19A..... 147
27-40-79 Wyo. Associated 11AX 20
24-40-79 Wyo. Associated 13AX 15
23-40-79 Wyo. Associated 22A 20
14-40-79 Wyo. Associated 4A 15
14-40-79 Wyo. Associated 18A 1900
14-40-79 Wyo. Associated 34A 15
35-40-79 Wyo. Associated 33X 20
1-39-79 Wyo. Associated 19A 20
1-39-79 Wyo. Associated 22A 15
30-40-79 Wyo. Associated 24A 15
30-40-78 Wyo. Associated 9A 10
24-40-79 Wyo. Associated 7A 10
25-40-79 Wyo. Associated 13A 126
35-40-79 Wyo. Associated 3A 75
35-40-79 Wyo. Associated 23AX 250
27-40-79 Wyo. Associated 19A 300
35-40-79 Wyo. Associated 15A 20
2-39-79 Salt Creek Cons. 4A 20
31-40-78 Salt Creek Cons. 25A 20
31-40-78 Salt Creek Cons. 4A 10
18-40-78 Salt Creek Cons. 30A 1210
1-39-79 Salt Creek Cons. 22A 15
18-40-78 Salt Creek Cons. 4AX 110
31-40-78 Salt Creek Cons. 34A 20
31-40-78 Salt Creek Cons. 33A 10
31-40-78 Salt Creek Cons. 35A 10
31-40-78 Salt Creek Cons. 36A 10
31-40-78 Salt Creek Cons. 34A 10
31-40-78 Salt Creek Cons. 25A 10
11-40-79 Mountain & Gulf 33A 30
13-40-79 Mountain & Gulf 34A 25
13-40-79 Mountain & Gulf 22A 218
13-40-79 Mountain & Gulf 33A 90
6-39-78 Mountain & Gulf 22A 147
6-39-78 Mountain & Gulf 15A 20
6-39-78 Mountain & Gulf 4A 15
13-40-79 Mountain & Gulf 21A 160
6-39-78 Mountain & Gulf 34A 10
2-39-79 Mountain & Gulf 7A 61
24-40-79 Midwest Oil 23X 10
25-40-79 Midwest Oil 1A 130
14-40-79 Midwest Oil 34A 845
25-40-79 Midwest Oil 10A 340
1-39-79 Midwest Oil 12A 20
35-40-79 Midwest Oil 34A 50
14-40-79 Midwest Oil 33A 15
1-39-79 Midwest Oil 19A 10
11-40-79 Midwest Oil 33A 360
22-40-79 Midwest Oil 2A 10
35-40-79 Midwest Oil 34A 670
2-39-79 Midwest Oil 14A 150
27-40-79 Midwest Oil 22A 10
19-40-78 Midwest Oil 13A 20
7-39-78 Kasoming Oil E2 35
7-39-78 Kasoming Oil E3 20
17-39-78 Kasoming Oil 2 185
18-39-78 Kasoming Oil 3 30
20-39-78 Prod. & Ref. B13 20
6-40-78 Prod. & Ref. B1 20
6-40-78 Prod. & Ref. B4 20
30-40-78 Prod. & Ref. 9 50
17-39-78 Prod. & Ref. 2 20
18-39-78 Prod. & Ref. F3 20
20-39-78 Marine Oil T7 20
32-40-78 Kinney Coastal 30A 150
19-39-78 Kinney Coastal 31A 35
5-39-78 Western States 16A 85
18-40-78 Continental Prod. W6 30
18-40-78 Continental Prod. W7 35
29-40-78 Continental Prod. 5 10
32-40-78 Continental Prod. B10 10
11-39-79 E. T. Williams 25A 100
32-40-78 Continental Prod. B11 70
32-40-78 Continental Prod. B13 65
32-40-78 Continental Prod. B14 55
5-39-78 Carter Oil R11 200
2-39-79 Sinclair Wyo. 14 20
2-39-79 Sinclair Wyo. 15 55
10-39-79 Mutual Oil 26A 20
12-40-79 Empire State Oil 32A 320
25-40-79 Wyo. Oil Fields 31A 65
25-40-79 Midwest and Wyo. Associated 13A 20
18-40-78 Marine Oil 4 147
6-39-78 Staley Synd. 11 10
34-40-79 Wyo. Associated 24AX 10
27-40-79 Midwest Oil 31AX 10
24-40-79 Wyo. Associated 4A 15
23-40-79 Wyo. Oil Fields 16A 15
19-46-98 State, Ohio Oil 40 15
31-48-90 Brome, Ohio Oil 1 ..... dry
11-26-90 Prod. & Ref. 20
35-26-88 Prod. & Ref. 3 ..... gas
6-23-88 Kasoming Oil ..... gas
11-26-90 Kasoming Oil 49 375
10-31-98 Derby Dome Oil Co. 75
6-31-98 Dunne Oil Co. 20
17-47-63 Euclid Oil Co. 20
12-33-83 New York Oil Co. 100
12-33-83 New York Oil Co. ..... gas
36-18-104 Midwest Ref. Co. 2 ..... gas
36-17-104 Prod. & Ref. 1 ..... gas

Wells completed 110
Production 17238
Dry 1
Gas 5
Gas production 39,500,000

MONTANA

3-35- 1 Sunburst O. & G. 1 ..... gas
12-35- 2 Barth, Hager Stevenson ..... dry
24-35- 2 Zimmerman, Wells Oil Co. 20
25-35- 2 McKee California Co. 4 40
7-34- 1 Carlson, Dakota Montana Oil 1 10
2-34- 2 Shoemaker, Lilley et al ..... dry
4-34- 2 Corey, Johnson Oil Synd. 250
25-35- 2 Abel, Rockester Anowa Oil Co. 3 ..... gas
14-35- 2 O'Haire Oil Co. 15
19-35- 1 Bluhm, Noyes et al ..... dry
5-34- 2 Sweeny, Regal Oil 50
7-34- 1 Russel Oil Co. et al ..... dry
4-35- 2 Reibe, Homestake Oil Co. 25
4-34- 2 Storme, Shoshone Oil Co. 2000
4-34- 2 Whitman, Corey 2 2500
30-35- 1 Stannard, Securities Oil Co. 3 . 200
2-35- 2 Lind, Carter Oil 2 15
21-35- 1 White, Jones Oil Co. 25
29-35- 1 Anderson, Treasure State Oil.. 50
17-35- 1 Rice, Frazier et al ..... dry

Wells completed 20
Production 5200
Dry 5
Gas 2
Gas production 2,500,000

COLORADO

22-4-92 Iles Dome, Midwest Ref. Co. 1..3000
33-5-91 Moffat, Texas & Transcont. .... dry

Wells completed 2
Production 3000
Dry 1

BIG MUDDY FIELD
Shut Down

8-33-76 Humphrey Oil Co. 38.
2-33-76 Fenix, Mutual Oil Co. 4.
8-33-76 Carey, Texas Prod. Co. 32.
15-33-76 Whiteside, Mutual Oil Co. 3.
Wells drilling, 4.

SALT CREEK
Rigs

12-39-79 Castle Rock, Ohio Oil Co. 11.
26-40-79 SW¼, Midwest Oil Co. 13AX.
18-40-79 Marine Oil Co. 5.
32-40-78 NW¼, Cont. Prod. and B-12.
26-40-79 NW¼, Wyoming Associated 19-A.
26-40-79 SW¼, Wyoming Associated 19-A
34-39-78 SW¼, Mammoth Oil Co. 302.
34-39-78 NW¼, Mammoth Oil Co. 205.
28-39-78 NW¼, Mammoth Oil Co. 204.
33-39-78 NE¼, Mammoth Oil Co. 405.
28-39-78 SE¼, Mammoth Oil Co. 406.
13-39-78 SE¼, Bessimer Oil Co. 2-AX and 12-AX.
13-39-78 SE¼, Blackstone-Salt Creek F-4.
17-39-78 SE¼, Sinclair Wyoming 11.
10-40-79 SE¼, Empire States Oil Co. 24-A.
11-39-78 NW¼, E. T. Williams Oil Co. 2-A.
13-38-78 SW¼, Wyoming Teapot Oil Co. 1.
16-39-79 NE¼, Nichalaysen et al 1.
10-38-78 NW¼, Mammoth Oil Co. 202.
19-40-78 NE¼, Norris Oil Co. 18-A.
26-40-79 NE¼, Wyoming Associated 18-A.
8-39-78 NE¼, Western States 21-A.
17-39-78 NW¼, Western States 26-A.
22-40-79 SW¼, Wyoming Oil Fields 8-A.
23-40-79 NW¼, Wyoming Oil Fields 26-A.
23-40-79 SE¼, Wyoming Oil Fields 22-A.
26-40-79 SE¼, Wyoming Associated 19-AX.
23-40-79 SW¼, Wyoming Associated 29-A.
26-40-79 NE¼, Wyoming Associated 29-A.
2-39-79 NE¼, Wyoming Associated 29-A.
35-40-79 NW¼, Wyoming Associated 4-A.
16-40-79 NE¼, Wyoming Associated 21-A.
26-40-79 SE¼, Wyoming Associated 23-A.
34-40-79 SE¼, Wyoming Associated 16-A.
14-40-79 SW¼, Wyoming Associated 22-A.
35-40-79 NW¼, Wyoming Associated 24-A.
31-40-78 NE¼, Salt Creek Cons. 15-A.
11-39-79 NW¼, Salt Creek Cons. 2-A.
31-40-78 NE¼, Salt Creek Cons. 9-A.
31-40-78 NE¼, Salt Creek Cons. 10-A.
31-40-78 SE¼, Salt Creek Cons. 26-A.
13-40-79 SE¼, Mt. and Gulf 16-A.
6-39-78 NE¼, Mt. and Gulf 34-A.
6-39-78 NE¼, Mt. and Gulf 29-A.
6-39-78 SE¼, Mt. and Gulf 8-A.
35-40-79 S½, Midwest Oil Co. 13-A.
25-40-79 SW¼, Midwest Oil Co. 6-A.
26-40-79 SE¼, Midwest Oil Co. 14-A.
34-40-79 NE¼, Midwest Oil Co. 16-A.
19-40-79 SW¼, Midwest Oil Co. 36-A.
23-40-79 NW¼, Midwest Oil Co. 29-A.
26-40-79 SE¼ Midwest Oil Co., 1-A.
35-40-79 NE¼, Midwest Oil Co. 18-A.
35-40-79 NE¼, Midwest Oil Co. 21-A.
13-40-79 SE¼, Mt. and Gulf 4-A.
13-40-79 SE¼, Mt. and Gulf 2-A.
11-39-79 NE¼, Kasoming Oil Co. B-4.
12-40-79 NW¼, Midwest & Wyo. Asso. 24-A.
17-39-78 NW¼, Western States 13-A.
19-40-78 NE¼, Cont. Prod. 19.
29-40-78 SW¼, Cont. Prod. S-6, S-7.
5-39-78 NW¼, Carter Oil Co., D-12, D-13.
2-39-79 SE¼, Sinclair Wyoming 16.
1-39-79 SE¼, Mutual Oil Co. 11-A.
2-39-79 SW¼, Mutual Oil 8-A.
34-40-79 SW¼, Mutual Oil 25-A.
5-39-79 SE¼, M. B. Schuster 15-A.
20-39-78 Tract E. T., Ohio Oil 7.
17-39-78 NE¼, Carter Oil P-13.

Wells Drilling

30-40-78 SW¼, Wyoming Asso. 12-A.
34-40-79 NE¼, Wyoming Asso. 22-A.
35-40-79 NW¼, Wyoming Asso. 19-A.
24-40-79 NW¼, Wyoming Asso. 11-A.
24-40-79 NE¼, Wyoming Asso. 21-A.
30-40-78 NW¼, Wyoming Asso. 36-A.
30-40-78 SE¼, Wyoming Asso. 31-A.
23-40-79 SE¼, Wyoming Asso. 21-A.
34-40-79 SE¼, Salt Creek Con. 33-AX.
31-40-79 SE¼, Salt Creek Cons. 4-A.
31-40-79 NE¼, Salt Creek Cons. 13-A.
31-40-79 NE¼, Salt Creek Cons. 6-A.
31-40-78 NE¼, Salt Creek Cons. 21-A.
31-40-78 NE¼, Salt Creek Cons. 33-A.
31-40-78 NE¼, Salt Creek Cons. 1-A.
12-40-79 SE¼, Mt. and Gulf 19-A.
12-40-79 SE¼, Mt. and Gulf 5-A.
6-39-78 SE¼ Mt. and Gulf 13-A.
13-40-79 SE ¼,Mt. and Gulf 21-A.
6-39-78 SE¼, Mt. and Gulf, 21-A.
12-40-79 SE¼, Mt. and Gulf 34-A.
13-40-79 NE¼, Mt. and Gulf 35-A.
26-40-79 SW¼, Midwest Oil 18-A.
26-40-79 SE¼, Midwest Oil 8-A.
14-40-79 SE¼, Midwest Oil 19-A.
11-40-79 SE¼, Midwest Oil 19-A.
1-39-79 NE¼, Midwest Oil 19-A.
19-40-79 SW¼, Midwest Oil 13-A.
35-40-79 SW¼, Midwest Oil 16-A.
14-40-79 NW¼, Midwest Oil 3-A.
11-40-79 SW¼, Midwest Oil 34-A.
35-40-79 SW¼, Midwest Oil 21-A.
12-40-79 SW¼, Midwest and Wyoming Associated 24-A.
12-40-79 SW¼, Midwest and Wyoming Associated 2-A.
12-40-79 NW¼, Midwest and Wyoming Associated 35-A.
6-39-78 NE¼, Mt. and Gulf 33-A.
30-40-78 NW¼, Utah Oil & Ref. 12-A.
6-39-78 SE¼, Prod. and Ref. 5.
8-39-78 SW¼, Prod. and Ref. 3.
17-39-78 SE¼, Marine Oil M-8.
18-40-78 SW¼ Continental Prod. W-9.
18-40-78 SW¼, Continental Prod. W-8.
30-40-78 NE¼, Continental Prod. B-13.
30-40-78 NE¼, Continental Prod. B-11.
5-39-78 SW¼, Carter Oil R-10.
5-39-78 NW¼, Carter Oil Co. D-8.
5-39-78 NE¼, Carter Oil Co. D-11.
5-39-78 NW¼, Carter Oil Co. D-15.
30-40-78 NE¼, Bonfits Oil Co. 35-A.
34-40-79 SW¼, Mutual Oil Co. 35-A.
2-39-79 SW¼, Mutual Oil Co. 8-A.
32-39-79 SW¼, Mutual Oil 28-A.
12-40-79 SW¼, Empire State Oil 19-A.
19-40-78 NW¼ Utah Oil & Ref. 11-A.
11-39-79 E. T. Williams 7-A.
26-40-79 NW¼, Wyoming Asso. 15-A.
15-40-79 NE¼, Wyoming Asso. 36-A.
31-40-78 NE¼, Salt Creek Cons. 13-A.
31-40-78 NE¼, Salt Creek Cons. 12-A.
16-39-78 NW¼, Marine Oil Co. N-4.
20-39-78 SW¼, Marine Oil Co. T-8.
17-39-78 NE¼, Carter Oil Co. P-12.
18-40-78 SW¼, Wyocans (Marine) Oil Co. 6.
20-30-78 Marine Oil Co. 8.
27-40-79 Columbia 2, Ohio Oil Co. 12.
3-39-79 NE¼, Salt Creek Cons. 30-AS.
27-40-79 SW¼, Salt Creek Cons. 36-A.
20-39-78 SW¼, Marine Oil Co. T-7.
32-40-78 SW¼, Mutual Oil Co. 29-A.
2-39-79 SW¼, Mutual Oil Co. 25-A.
11-40-79 SW¼, Midwest Oil 13-A.
19-40-78 SE¼, Continental Prod. C-2.
30-40-78 SE¼, Wyoming Asso. 16-A.
22-40-79 NW¼, Kasoming Oil Co. B-2-S.
7-39-78 SE¼, Mutual Oil Co. 1 and 2.
26-40-79 NW¼, Wyoming Asso. 8-AX.
11-40-79 SE¼, Midwest Oil 3-A.
18-39-78 NW¼, Prod. & Ref. D-1.
17-39-78 SE¼, Marine Oil Co. 7.
28-40-79 SW¼, Jupiter Oil Co. 27-A.
5-39-78 NE¼, Western States Oil 30-A.
19-40-78 SE¼, Continental Prod. C-3.

Shut Down

6-39-78 NW¼, Mt. and Gulf 29-A.
27-40-79 SE¼, Midwest Oil Co. 18-A.
30-40-78 NE¼, Bonfils Oil Co. 31-A.
19-39-78 NW¼, Continental Prod. R-3.
18-40-78 SW¼, Continental Prod. W-1.
28-40-79 SE¼, J. C. Smith S-1.
29-39-78 Mammoth Oil Co. 101--A.
28-39-78 NE¼, Mammoth Oil Co. 304.
28-39-78 SW¼, Mammoth Oil Co. 302
28-38-78 NW¼, Mammoth Oil Co. 205.
4-38-78 NE¼, Mammoth Oil Co. 101
23-39-79 NE¼, Evans Oil Co. 1.
29-39-79 NW¼, Omaha Lusk Oil 1.
35-39-78 SW¼, Teapot Dome Synd. 15-A.
2-38-78 SE¼ Teapot Dome Synd. 34-A.
24-38-78 NE¼, Mutual Oil Co. 32-AS.
2-38-78 NE¼, Teapot Dome Synd. 406.
Rigs, 72; wells drilling, 100; total, 172.

LANCE CREEK
Wells Drilling

26-35-66 Rodeo, Buck Creek Oil.
3-35-65 Mutual Oil Co. 7.
3-35-65 Mutual Oil Co. 8.

Shut Down

5-35-65 Lamb, Ohio Oil Co. 1.
18-35-65 NE. Union Oil 1.
Wells drilling, 5.

BIG HORN BASIN
Wells Drilling

13-44-98 Western States Oil & Land.
22- 6- 2 Miles Oil Corp.
17-46-98 Washakie, Ohio Oil Co. 1.
7-46-98 Washakie, Ohio Oil Co. 2.
33-53-97 Cross Gas Co., Ohio Oil 2.
19-46-98 Meetertse, Midwest Ref. Co. 16-A.
28-44-93 F. A. McPherson.
11-40-102 T. A. Stancliff.
3-42-93 Union Oil Co.
32-56-97 Howell, Occidental Oil & Gas.
30-58-99 Elk, Midwest Ref. Co. 71.
2-47-100 NE¼, Midwest Ref. Co. 3.
4-50-95 NW¼, Florence Oil Co. 1.
16-45-95 Westland Oil Co. 1.
23-44-95 Foavin, Ohio Oil Co. 1.
5-47-90 Hetzler, Ohio Oil Co. 1.
20-30-101 Gulterman et al 1.
26-46-100 NE¼ Producers & Refiners 1.
35-43-91 Black Mt., Utah Oil & Ref. 2.
11-46-95 SE¼, Midwest Ref. 1.
18-46-98 Washakie, Ohio Oil Co. 1.
18-46-96 Wyley, Ohio Oil Co. 19.
20-46-98 Milliron, Ohio Oil Co. 19.
17-42-95 Markham & Woods.
3-36-97 Royalty & Holdings 1.
30-56-97 Producers & Refiners 1.
8-51-100 Union Oil 1.
4-50-100 Oregon Basin, Flynn & Ache. 1
31-53-100 Cody Oil & Gas.
29-56-97 NE¼, Utah Southern Oil 1.
11-49-102 Omar Oil & Gas.
19-46-93 Ridgeley, Midwest Ref. 19-A.
13-45-93 Washakie, Midwest Ref. 1.
18-46-98 SW¼, Midwest Ref. 20.
11-49-102 Florence Oil Co. 1.
34-43-93 C. D. Martin et al.
31-56-96 Standard of California.
30-58-99 Elk 5, Midwest Ref. Co. 16.
1-47-100 NW¼, Midwest Ref. 1.
11-49-102 Clark et al.

Shut Down

2-47-100 NE¼, Midwest Ref. 1.
17-46-98 Tunador Oil Co. 1.
31-40-99 NW¼, Kasoming Oil Co.
34-56-97 Lulton, Allen Oil Co.
22-48-91 SW¼, Olympus Oil & Gas Co.
17-49-91 Frontier Oil & Gas Co.
27-46-98 Rankin, Dickie Oil Co.
8-46-98 Grass Creek Prod.
3-42-92 NE¼, Union Oil Co.
2-44-96 F. A. McPherson.
12-45-97 Midwest Refining Co.
2-56-97 Jones, Allen Oil Co. 1.
32-58-99 Thompson, Elk Basin Oil Co.
31-48-100 Midwest Ref. 1.
3-56-97 Griffith, Allen Oil Co.
31-48-100 Midwest Ref. Co. 1.
3-56-97 Beck Pet. Co. 1.
16-47-100 Big Horn Dev. Co. 1.
21-53-100 Pitts & Southwestern.
Rigs, 0; wells drilling, 59; total, 59.

LOST SOLDIER AND CARBON COUNTY
Rigs

32-26-87 Prod. & Ref. 2.
26-23-88 Bair Oil Co.
2-26-90 Kasoming Oil Co. 57-A.
22-26-87 Government land, Sand Hills Oil 1.
36-25-89 NE¼, Prod. & Ref. 2.
10-26-90 U. S. Pet.

Wells Drilling

32-26-90 Texas Production Co.
11-26-90 Prairie Oil & Gas 57.
2-26-90 Prod. & Ref. Co. 1.
1-23-89 SE¼, Prod. & Ref. Co. 1.
25-26-88 NE¼, Hughes Royalty Co. 1.
8-25-86 NE¼, General Pet. Corp. 2.
32-21-87 SE¼, General Pet. Corp. 1.
20-21-80 NW¼, Prod. & Ref. 1.
23-26-87 SE¼, Marvin Oil Co. 1.
11-26-90 Kasoming Oil Co. 4-B.
11-26-90 Kasoming Oil Co. 52-A.
3-26-90 Kasoming Oil Co. 48-A, 57-A.
4-26-90 Sand Hills Oil 4.
22-26-89 Prod. & Ref.
26-23-88 Bair Oil Co. 1.
24-26-87 Prod. & Ref. Co. 20.
12-26-90 Texas Prod. Co.
35-25-88 M. M. Armstrong.
12-25-89 Government land, Prod. & Ref. 1.
7-26-89 Prod. & Ref. 2, 3, 4.
33-26-88 SE¼, Prod. & Ref. 2.
25-27-90 Annabel Wyoming 1.
25-26-89 Prod. & Ref. 10.
25-26-88 Kasoming Oil D-2.
34-26-88 Kasoming Oil C-2.
11-26-90 Kasoming Oil 49-A, 27-A, 1-C.
27-26-87 Prod. & Ref. 23.
25-26-87 Prod. & Ref. 10.
14-25-89 Prod. & Ref. 1.

Shut Down

34-23-79 Central Pipe Line Co. 1.
2-26-90 SE¼, Prod. & Ref. 1.
24-26-87 Prod. & Ref. 20.
28-26-88 Government land, Columbia Pet. 1.
25-26-89 SW¼, Bair Oil F-1.
26-26-88 Portland Wyoming 1.
9-25-88 SE¼, Sand Hills Oil 1, 2.
25-26-88 SE¼, Hughes Royalty 1.
9-29-90 Major Oil Co. 1.
Rigs, 6; wells drilling, 44; total, 50.

ROCK RIVER FIELD
Rigs

Rex Lake Dome, Laramie Oil & Dev. 1.

Wells Drilling

27-20-78 H. & C., Ohio Oil Co. 1.
27-16-77 U. P., Ohio Oil Co. 1.
34-20-77 Dixon, Ohio Oil Co. 9.
23-16-77 U. P., Ohio Oil Co.
14-15-75 SE¼, Wyoming Hollow Basin Oil 1.
26-21-79 SW¼, Southwest Pet. 2.
26-16-77 Coughlin, Ohio Oil Co. 2.
32-16-74 Government land, G. A. Briggs et al 1.
20-21-80 U. P., Prod. & Ref. 1.

Shut Down

14-16-77 H. & H. Oil Co.
32-16-74 Spindle Top Oil & Gas.
24-16-77 G. R. McConnell et al.
36-21-79 Southwestern Pet. Co.
25-21-79 Southwest Pet. Co.
12-19-78 Prairie Dog Oil & Gas 1.
4-17-78 Hutton Lake Oil.
18-15-75 Apex Ref. Co.
18-15-75 Pet. Oil Fields.
12-20-77 Government land, McLaughlin et al.
10-18-77 Government land, Carbon County Oil.
32-21-78 Government land, Ross et al.
Rigs, 1; wells drilling, 21; total, 22.

FREMONT COUNTY
Wells Drilling

18-26-97 Prairie Oil & Gas 1.
18-27-95 Prairie Oil & Gas C-2.
2-27-95 Prairie Oil & Gas 1.
9-31-98 Martin F. Fold et al 1.
21- 3- 1 Marine Oil Co. No. 4.
15-32-95 Prod. & Ref. 3.
26- 5- 2 Connolly Oil & Gas.
Shoshoni District, John C. Catleigh et al.
35-43-91 Utah Oil & Ref.
25-27-23-32-95 Prod. & Ref.
26-27-74 Wyoming Synd. 1.
15- 6- 2 SW¼, Union Oil Co. 13.
27-34-95 Dutton Basin, Texas Prod. Co. 13.
15-34-90 Ward Oil Co. 1.
34- 6- 3 Kinney Coastal 2.
15-32-90 Sand Draw, Prod. & Ref. 3.
23-32-95 Sand Draw, Prod. & Ref. 1.
9-32-95 Prod. & Ref. 2.

28-32-90 Ward Oil Co.
22- 1- 1 McDonald et al 1.
4-31-98 Derby Dome Wyoming Oil.
4-31-98 Burnside Oil Co.
24-33-90 Dutton Basin, Myers Pet. Co.
Shut Down
21- 1- 1 Bridger Oil Co.
29-27-95 Fremont Pet. Co.
18-27-95 Sage Creek Pet. Co.
Rigs, 0; wells drilling, 26; total, 26.

OSAGE
Rigs
31-27-63 West Royalty Oil Co.
Faucett Ranch, Manlove et al.
31-26-63 Clark et al.
17-26-63 La Fleich Oil o.
19-26-63 Sinclair Wyoming.
31-26-63 Lusk Royalties Oil Co.
Wells Drilling
17-27-63 Wyoming Oil & Gas.
18-26-63 Fred Gradestead.
11-25-64 Frederick Oil Co. 1.
5-26-64 Fletcher Bros.
20-26-64 Byron Gardner Co.
31-26-63 Tom Don Oil.
17-26-63 La Fleich Oil Co.
Shut Down
6-26-63 Osage Trust Co.
31-25-63 Bachellor Oil Co.
8-25-63 Griffith Oil Co.
Rigs, 6; wells drilling, 10; total, 16.

NATRONA COUNTY
Wells Drilling
11-32-82 Iron Mt., New York Oil 6.
30-29-87 Schnoor Dome, Kinney Coastal.
12-36-82 Columbus Oil Co.
20-30-86 John Wyland et al.
7-36-81 Columbus Oil Co. 1.
15-34-87 NE¼, Mutual Oil Co.
32-37-81 California Co. 1.
36-37-81 SW¼, Midwest Ref. 1.
31-40-80 Comet Synd. 1.
Poison Spider, Fargo Oil Co. 24, 25, 26.
10-36-85 Boone Dome, New York Oil.
9-35-85 New York Oil Co. 4.
28-11-81 Tisdale, Midwest Ref. 1.
23-34-82 Bradford Wyoming 1.
22-36-82 Bothberg Dome, California Co.
5-39-80 Government Hill, Vernon Oil Co.
7-36-81 Arkansas Nat. Gas Co.
10-37-85 Midwest Ref. 2.
2-37-85 Marland Oil Co.
Shut Down
35-35-84 Alaska Dev. Co.
2-34-83 California Oil Co.
12-34-84 Cheney et al.
Lox Dome, Lox Syndicate.
9-41-80 Pat O'Conner 1.
Rigs, 0; wells drilling, 26; total, 26.

LINCOLN COUNTY
Rigs
31-28-113 Magie & Horn, Tip Top Synd.
12-29-113 Clinton Oil Synd.
Wells Drilling
28-47-65 Vernis Goss et al.
1-28-114 Utah O. & R. & Midwest.
3-26-113 Wyoming Reserve Oil Co.
27-27-113 Wyoth Oil & Gas.
3-26-113 Superior Oil & Gas.
1-28-113 Midwest Refining Co.
Shut Down
Afton Dist., Idaho Wyoming Oil 1.
1-28-114 Lackey et al 1.
Rigs, 2; wells drilling, 8; total, 10.

BAXTER BASIN
Rigs
27-17-104 Montacal Oil 1.
7-17-103 Petrogas Oil 1.
Wells Drilling
2-17-104 NE¼, Midwest Ref. Co.
23-17-104 SE¼, Associated Oil Co. 1.
26-17-104 NW¼, Prod. & Ref. 1.
10-16-104 Midwest Ref. Co. 6.
23-17-104 Asso. Oil Co.
Shut Down
27-17-104 Montacal Oil Co.
26-17-104 Asso. Oil Co.
10-16-104 SE¼, Midwest Ref. Co. 29.
10-16-104 NW¼, Midwest Ref. Co. 36.
2-17-104 NE¼, Midwest Ref. Co. 1.
25-18-104 Midwest Ref. 29.
30-18-104 Midwest Ref. 6-AX.
8-16-104 Montacal Oil Co.
Rigs, 2; wells drilling, 13; total, 15.

MISCELLANEOUS
Wells Drilling
18-25-98 Welling Oil Co.
7-28-82 Cliff Pet. & Southwestern.
23-27-93 Asso. Oil Co.
Burris Dome, Sale Creek Mont. Giant.
21-31-79 Irvine Dome, Big Sioux Oil.
28-42-79 Burris Dome, Seattle Synd.
17-46-82 Tarrant Synd. 1.
20-21-80 Prod. & Ref. 1.
Buffalo Dist., Kinney Coastal 1.
20-21-80 Prod. & Ref. 2.
16-21-80 Prod. & Ref. 1.
21-48-82 Carter Oil 3.
26-27-61 Platte Wyoming Oil Co.
20-29-68 Glendo Dist., Nebraska Oil.
Guernsey Dist., Ill. Synd.
Shut Down
16-48-82 Carter Oil 1.
Lingle Dist., Matthew Foreman et al.
18-29-68 Glendon Oil & Gas Co. 2.
Rigs, 0; wells drilling, 18; total, 18.

MONTANA
CAT CREEK
Rigs
12-15-28 NE¼, Shaffer Oil Co.
Wells Drilling
12-15-28 California Co. 7.
31-15-30 Michael Master et al.
8-15-29 Mutual Oil.
12-15-29 Catlett, Mid-Northern Oil.
9-15-27 Peerless Oil 2.
23-14-28 Winnett, Pacific Oil 1.
1-15-29 Custer Oil & Gas.
28-16-28 Republic Peerless Oil.
9-15-29 NE¼, Frantz Corp.
7-15-28 NW¼, Hogan Oil 2.
9-15-29 Mid-Northern Oil.
29-14-29 Flatwillow Oil.
27-15-29 Frantz Corp.
Shut Down
10-15-29 Fifty-Six Pet.
22-15-30 A. D. Miller et al.
11-15-30 Helena, Cat Creek Oil.
20-15-30 Montacal Oil.
8-15-29 Logan Corp.
15-15-30 Swartz et al.
11-15-30 Miles City Oil.
Rigs, 1; wells drilling, 20; total, 21.

SUNBURST FIELD
Rigs
25-25- 2 Standard Beaver, Montana.
18-25- 1 Frazier et al 1.
29-25- 1 Bluhm, Elliott Collander 2.
20-25- 2 Cobb Rutherford.
20-25- 2 Jarrett, Sunburst O. & G.
30-25- 1 Stannard, Wallace 2.
34-25- 3 Lewis, Lewis Kevin Oil Co.
11-25- 2 Stockman Bank, Ohio Oil 2.
7-25- 1 SW¼, Hager, Stevenson Oil.
25-26- 2 Kashin, Ohio Oil 1.
20-25- 2 Whitman, Homestake Explor. 1.
30-25- 2 Heckla Oil Co. 1.
7-22- 2 Mutual Oil Co.
20-32- 2 Crumley, McKnight 1.
Wells Drilling
29-25- 1 Anderson, Sylvester Oil Co. 3.
32-26- 2 Roundsley, Sunburst O. & G.
22-25- 2 Newman, California Co. 3.
21-24- 1 Stockman's Bank, Potlatch Oil & Gas.
24-23- 1 Shelby Syndicate 1.
28-27- 2 MacAlpine, Spartan Oil Co. 1.
20-25- 2 Halter, Sunburst Prod. 2.
2-25- 1 Skilton, Sweetgras Arch 2.
7-24- 1 Harte, Russel Oil Co. et al.
18-24- 1 Skinner, Creel et al.
25-25- 3 Stannard, Wyomont 4.
23-23- 1 Webb, Shelby Oil & Gas.
13-23- 1 Goderts, Campbell 5.
34-25- 1 Jerring, First International.
30-25- 1 Stannard, Securities Oil Co.
12-23- 1 Foster & Hall.
30-25- 1 Anderson, Spartan Oil Co.
10-24- 3 Western Pet. Co.
31-27- 1 Beaupre Oil Co.
4-24- 2 Corey, Crumley, McKnight 5.
31-25- 1 Big West Oil Co.
26-25- 3 Campbell Reinsmith.
4-25- 2 Reibe, Homestake Oil Co. 3.
9-25- 2 Howling, Homestake Oil Co. 4.
9-25- 2 Howling, Mid Northern Oil 6.
30-25- 1 Anderson, Ferdig et al 2.
32-25- 2 Putman, Keystone Oil Co. 1.
30-25- 1 Stannard, Tri State Oil Co.
30-25- 2 Broadwell, Cobb & Rutherford.
29-25- 1 Bluhm, William Elliott 2.
14-25- 2 Hagerty, Sunburst Oil & Gas 2.
Shut Down
3-25- 3 Baum, Colfax Pet. Co.
12-24- 1 Peterson, Lucky Forty Oil Co.
18-22- 4 Beck Petroleum Co.
21-25- 2 McGowan, Holding & Royalty Oil.
13-23- 3 Campbell, Campbell Synd. 5.
16-24- 2 NW, Rainbow Oil Co.
1-24- 2 NE, Sunburst Oil & Gas.
Rigs, 14; wells drilling, 40; total, 54.

MISCELLANEOUS
Rigs
Livingstone Dome, Whiteside et al.
Porcupine Dome, Stellar Oil & Gas.
Great Falls Dist., Virgilie Oil Co. 1.
24-15-15 Fullerton Oil Co.
12-10-32 Higgerd Oil Co.
4-38-29 Boondery Butte, Mid-Northern Oil.
Coal Ridge, West Virginia Oil Co.
4-50-100 Florence Oil Co.
Wells Drilling
9-31-19 Deny, California Co.
35- 7-13 Churchwell et al.
11- 1-29 Moddrell, Mid Northern Oil.
8- 2-24 NE, Penn. Kentucky Oil.
28-16-27 NE, Greer Brothers.
21-14-28 Flatwillow, Blackhawk Oil.
14-14-25 Flatwillow, AMZ Syndicate.
25-35- 2 Adams, Anderson Invest. Co.
28-16-27 Brush Creek Snyd.
31- 1-21 Putnam, Midwest Ref. Co.
24- 4-61 Absaroka Oil & Dev.
24- 5- 8 Potter Basin Oil Co.
8- 4-23 NE, Hoosier Oil Co.
28- 8-21 Absaroka Oil & Dev. Co.
18-32- 4 Beck Pet. Co.
18- 3-23 Securities Prod. Co.
30-15-26 Winnet Shallow Oil Synd.
34- 7-16 NE, California Co.
29-11-23 Montana Pioneer Oil 2.
22-25-20 Butler Oil & Gas.
24-20-12 Continental Prod. 1.
17- 3-19 Snyder, Mid Northern Oil 1.
22-23-12 Hager Stevenson 1.
7- 4-22 Securities Pet. Co.
4-17-20 California Co.
18-24- 7 Cascade Oil & Gas.
21- 1-21 Moddrell 2.
20-24- 1 C. A. McDonald et al.
2-28- 3 Fury Fork Oil Co.
22- 4-16 Consolidated Oil & Gas.
21- 5-25 Record Pet. Co.
10-18- 2 Moscow Oil Co.
4- 2-27 Mid Northern Oil.
24- 3-24 NW¼, Murray Bros.
31- 1-21 Putnam, Mid Northern Oil 1.
35- 1-21 Luce, Midwest Ref. Co. 1.
23- 1-21 Lindsay, Midwest Ref. Co. 1.
10- 5-97 Bro-Superior.
20- 1-25 California-Absaroka.
Shut Down
20-25- 5 Larson, Walter Bright.
32-22- 3 Reese, Greater Great Falls Oil Co.
32-30- 2 Denzer, Drake Oil Co.
2-26- 6 Jones, Walter Bright.
13- 3-23 SW¼, Securities Prod. Co. 4.
9-11-24 NW¼, Absaroka Oil Dev. Co.
21-14-28 Blackhawk Oil Co.
21-30- 2 Turner, Fergus Oil & Gas.
22- 2-25 McMannamin et al.
18- 6-24 Minnemyer & Newman.
3-12-25 Minnesota Flatwillow.
15-27- 7 Kelly, Empire Oil Co.
6-13-14 Fulton Oil Co.
26-14-29 NW¼, Jackson Dome Oil.
7-27- 1 Tri City Oil Co.
18-26-26 Walker Brothers.
12-11-23 Armstead Oil Co.
Devils Basin, Alberta Block Coal Co.
Big Coulee, Midland Pet. Co.
12-18-13 Arrow Creek Pet. Co.
28-13-25 Wayne Pet. Co.
35- 2- 7 Gladys Belle Oil Co.
Coalwood Dome, Annamay Oil Co.
Hailstone Basin, Hailstone Basin Oil Co.
Devils Basin, Montana Central Oil.
Devils Basin, Monarch Oil Co.
24- 5-17 Unit Oil & Gas.
23- 2- 5 Fox et al.
22- 3-24 Davis Creek Synd.
23- 5-28 Beauvois Oil Co.
12-11-13 Kalispel Syndicate.
6- 5-25 Grey Eagle Oil Co.
22-11-24 Success Ref. Co.
8-26- 1 Montana Idaho Oil Co.
20-20- 1 A. M. Barringer.
31-15-45 Crowrock Oil Co.
6- 6-17 Armstead Oil Co.
2- 2-26 Clark's Fork Oil Co.
11- 1- 1 Ruby Ridge Oil Co.
Rigs, 8; wells drilling, 78; total, 86.

COLORADO
Rigs
29-10-68 Wellington, American Pet. Co.
9- 9-69 Douglas Oil Co.
12-38-70 Green Mt. Pet. Co.
21- 9-68 Midway Oil & Gas.
10- 2-70 NW¼, Mullin Syndicate.
27- 2-70 Rainbow Oil & Dev.
7- 9-68 Union of Calif.
13-12-77 Little Snake River, Ohio Oil.
30-27-45 Lamar Oil Co.
Wells Drilling
16- 4-91 State land, Texas Prod. Co.
9- 4-91 Meyers, Texas Prod. Co.
32- 4-89 Beaver Creke, Transcontinental Oil Co.
24- 4-93 Axial Basin, California Co.
30-31-66 Union of Calif.
22-29-13 Farmington Pet. Co.
28- 5-91 Texas Prod. Co.
28- 5-91 Hamilton Salt Creek.
31- 5-98 Morgan, Union Oil Co.
16- 3-91 Marland Oil Co.
16- 5-94 State land, Hogan interests.
8- 4-67 Carter Oil Co.
7- 6-86 Texas Prod. Co.
24- 8-85 Galloway, Centenial Oil Co.
25-21-64 Rusler, Ohio Oil Co.
24-33-12 J. A. Leidecker et al.
22-32-13 Love et al.
34-17-70 Mutual Oil Dev.
28- 5-91 Freeman, Texas Prod. Co.
33- 5-91 NE¼, Texas Prod. Co.
9-12-62 Ulum, Roland Oil Co.
34- 2-69 Roland Oil Co.
16- 4-89 State land, Midwest Ref. Co.
28- 2-70 Sand Hills Oil Co.
Pueblo Dist., Chico Basin Oil & Gas.
24- 9-69 SW¼, Wellington Oil Corp.
28- 2-70 Bell, Ohio Oil Co. 1.
23-31-65 Colorado Oil Co.
6- 9-68 Scott, Union of Calif.
36- 9-68 State, Union of Calif.
35-22-66 San Carlos Oil Co.
14- 4-82 Ahern, Yarg Prod. Co.
20- 1-93 Marland Oil Co.
30- 4-68 Panuco Explor. Co.
24- 5-92 SE¼, Standard of Calif
Shut Down
23- 3-64 Eman Oil Co.
19- 5-68 Dry Creek Oil & Gas.
1-22-60 Jones Point Oil Co.
30-20-68 Eagle Rock Oil Co.
3-35-58 Las Animas Syndicate.
5-26-66 Moody Lake Oil Co.
15-21-64 Hall & Allen.
32-20-63 Salida Oil Ref. Co.
34- 5-91 Rennie, Texas Prod. Co.
18-20-46 Ne-No-She Oil Co.
28- 2-70 Gerhing, I. A. Decline.
Rigs, 8; wells drilling, 4½; total, 52.

UTAH
Rigs
37-41-19 Utah Southern Oil Co.
25-20-21 Utah Oil Ref. Co.
Wells Drilling
23-42-17 Government land, Monumental Oil.
Virgin Field, Gustaven Oil Co.
Rozel Dist., Leouna Mining & Milling Co.
Rozel Dist., Lake Side Oil Co.
24-25-21 Bix Six Oil Co.
31-40-18 Texas Prod. Co.
22- 3-24 SW¼, Prod. & Ref 1.
16- 2- 5 State land, Western Empire Oil Co.
23-42-17 Government land, Monroe Oil Co.
6- 2- 6 Ohio Oil Co.
Crescent Dome, Crescent Eagle Oil Co.
Diamond Fork, Gustaven Oil Co.
31-32-18 Union Oil of Utah.
Shut Down
12-19-13 Utah Oil & Ref. Co.
17- 4- 6 Utah Southern & Ute Pet.
13-14- 9 Castle Dale Oil.
27-16- 4 Producers Oil Co.
Lakeside Dome, W. R. Holmes.
Diamond Fork, Franco Utah Oil Co.
25-13- 3 Cash Valley Oil Synd.
2-17- 3 Utah Central Oil Co.
Harrisburg Dome, Virgin Oil Co.
Evans Claim, Uinta Oil Co.
Hill Creek, Hill Creek Oil & Ref.
Hill Creek, Mutual Oil Co.
Rigs, 2; wells drilling, 25; total, 27.

NEW MEXICO
Rigs
15-23-24 Floresheim Oil Co.
5-30-13 H. L. Williams.
4-18-28 SW¼, Roswell.
Wells Drilling
32-18-28 State land, Illinois Co. 4.
32-18-28 State land, Illinois Co. 5.
12-18-27 SE¼, Pitcher Oil & Gas.
22-18-27 NW¼, Oscar Howard.
28-18-28 SW¼, S. W. Walker.
3-27-17 Prod. & Ref.
17-28-18 SW¼, Gypsy Oil Co.
20-32-13 H. L. Williams 3.
17-21-13 H. L. Williams 4.
8-30-13 H. L. Williams 5.
23-23-13 Roy T. Clapp.
23-23-11 Bisti Oil Co.
Ute Dome, J. A. Leidecker et al.
31-32-13 Four States Oil Co.
16-30-11 Aztec Oil Synd.
31-26-13 Coal Creek Oil.
34-30-11 R. A. Carter et al.
Beautiful Mountain, Navajo Oil Co.
Vermejo Park, Union of Calif.
Shut Down
6-14-13 San Juan Dev. Co.
12-29-13 Shiprock Oil Co.
25-30-12 Hall et al.
14-29-11 Hubble & Hall.
Rigs, 3; wells drilling, 23; total, 26.

EASTERN FIELDS

Summary of Wells Completed

Field—	Comp.	Prod.	Dry	Gas
Allegany	29	44	0	0
Bradford	127	284	9	6
Middle Field	3	2	0	2
Venango-Clarion	34	34	4	2
Butler-Armstrong	13	47	3	1
Southwest Pennsylvania	22	86	5	14
West Virginia	86	222	19	44
Southeast Ohio	89	1,180	20	13
Total September	403	1,899	58	76
Total August	416	2,108	62	75
Difference	13	209	4	1

Rigs and Wells Drilling

Field—	Rigs	Drg.	Ttl.
Allegany	12	20	32
Bradford	25	101	126
Middle Field	3	1	3
Venango-Clarion	1	22	23
Butler-Armstrong	10	27	37
Southwest Pennsylvania	7	32	39
West Virginia	61	127	188
Southeast Ohio	25	89	114
Total September	143	419	562
Total August	161	460	621
Difference	18	41	59

ALLEGANY FIELD
WELLS COMPLETED
Fee, Lavens estate et al
Fee, F. W. Forness Jr.
Fee, Sawnett Oil Corp.
Fee, Dusenbury et al
Fee, G. N. Hill
Childs, Neal K. Wilson
McAndrews, E. J. Atwood et al
Fee, Jordan & Huggins
Richards, M. R. Goodell et al
Fanton, E. M. Ketchner
Wheaton, W. A. Durenbury et al
Fee, Empire Gas & Fuel, Ltd., et al
Reid, Agt., Randall & McEnroe
Fee, Empire Gas & Fuel, Ltd.
Fee, Empire Gas & Fuel, Ltd.
Canfield, Carter & Bradley
Putnam, Putnam et al
Cass & Putnam, Putnam et al
Cass & Putnam, Putnam et al
Fee, Empire Ltd. & Breckenridge
Fee, Phillips & Howard
Fee, R. J. Dermitt
Fee, R. J. Dermitt
Fee, Hazelwood Oil
Fee, Maude Hardman
Birtell, F. L. Putnam et al
Fee, Forest Oil
Fee, Forest Oil
Fee, Cuba National Bank

Wells completed
Production

BRADFORD FIELD
Borden, W. B. Miller
Skinner, W. E. Burdick
Skinner, W. E. Burdick
Hanes, Coast & Storms
Borden, A. J. Bucher
Noble, Forest Oil
Middaugh, L. J. Lilly estate
Keating, South Penn Oil
Barse, Burns Brothers
Marvin, Potter & Devore
Keating, Potter & Nichols
Burns, Arthur Yahn
Kay, T. H. Kervin, Jr.
Fee, Fennell & Wormer
Fee, George Fisher
D. C. & B. A. Schorman
Fee, G. L. Schoff
Shepard, South Penn
Jones, South Penn
Morse, Jos. Minnich
Morse, Jos. Minnich
Buke, Gridiron Oil
Borden, P. P. Thompson & Son
Baldwin, Forest Oil
Howard, Pressure Oil
Borden, Pressure Oil
Shepard, South Penn
Norton, Kahle Oil
South Penn Oil, Hurley et al
Duke, M. L. Boyle
Wright, D. W. Wright et al
Hamlin, S. H. Elder & Co.
Bingham, South Penn Oil
Bingham, Andrus & MacDowell
Traub, B. Daily
Bingham, Hazelwood Oil
Enterprise, Hazelwood Oil
Willett, J. H. Gibson
Garlock, Denwood Oil
Taylor, M. E. Jones
Fisher, M. E. Jones
Bingham, W. S. Jones, estate
Murphy, Forest Oil et al
Gibson, Hazelwood Oil
Raver, J. F. Magee
Sill, Hope Oil
Boyd, Whitehead & Carson
Emerson, W. J. Healy
Nesselson, Nesselson Brothers
Melvin, South Penn Oil
Lafferty, Hazelwood Oil
Melvin, South Penn Oil
Melvin, South Penn Oil
Bing. 439, South Penn Oil 67
Bing.-Satt., South Penn Oil 100
Bing. 533, South Penn Oil 64
Moody 54, South Penn Oil 32
Bing. 410, South Penn Oil 27
Ware, South Penn Oil 79
Lee, Halloch & Werton, So. Penn Oil 71
Melvin, South Penn Oil 173
Burdick, South Penn Oil 39
Melvin, South Penn Oil 170
Jones, South Penn Oil 198
Weheler, South Penn Oil 20
Bing. 172, Kishwaukee Oil 44
Bing. 173, Kishwaukee Oil 45
Fee, Grant & Mohan 56
Bing. 382, H. W. Daly 48
Bing. 389, Wilson & Fitzgibbon 69
Bing. 420, J. C. Crow 25
Bing. 391, George W. Bovaird 70
Bing. 291, Howard & McCallum 83
Bing. 381, Wilson & Fitzgibbon 70
Bing. 370, C. L. Wann et al 32
Bing. 388, C. L. Wann et al 42
Bing. 363, D. W. Daly 54
Bing. 368, Forest Oil, Inc., 39
Bing. 490, T. H. Kennedy Co. No. 2 125
Bing. 370, R. M. & James George 13
Fee, Curtis & Dunlavey 3
Fee, M. E. Jones 53
Fee, J. V. Golden 23
Luke estate, Hazelwood Oil 56
Fee, D. T. Andrus et al 11
Fee, Hazelwood Oil 1
Franchot, Hooker & McKay 1
Armstrong et al, South Penn Oil 1
Fee, Hazelwood Oil 17
Fee, J. A. Walters estate 36
Fee, J. A. Walters estate 27
Fee, A. W. Palmer
Leasure, South Penn Oil
Griffith et al, Hartzel & Knabb
Fee, South Penn Oil
Fee, O. L. Jack et al
Fee, M. E. Jones
Bing. 150, South Penn Oil 52
Fee, South Penn Oil 13
Bing. 176, Hazelwood & Kennedy 94
Fee, Kaber & Kaber 37
Fee, W. C. Kennedy Co. 37
Fee, South Penn Oil 32
Bing. 184 Associated Prod. 224
Bing. 452, South Penn Oil 48
Bing., Associated Prod. 300
Bing., Associated Prod. 297
Bing., Associated Prod. 252
Bing., Associated Prod. 282
Quintuple, Moore & Bradley
Fee, A. A. Foster
Bing. 179, Hazelwood & Kennedy
Fee, W. N. Hunter et al
Fee, Wm. C. Kennedy Co. 161
Fee, Hazelwood & Kennedy No. 2, 64
Paul estate, South Penn Oil 17

Bing. 136, Kennedy Co. No. 4, 49..... 4
Fee, South Penn Oil 45..... 4
American Development, Johnson & Waltman Brothers 4..... 1
Bing. 410, South Penn Oil..... 4
Bing. 439, South Penn Oil..... 5
Bing. 440, South Penn Oil..... 3
Bing. 439, South Penn Oil 67..... 4
Bing. 439, South Penn Oil 68..... wtr
Bing. 439, South Penn Oil 62..... 2
Bing. 533, Associated Prod. 325..... 1
Bing. 568, Associated Prod. 327..... 2
Bing. 570, South Penn Oil 94.....

Wells completed..... 127
Production..... 284
Dry..... 9
Water..... 1

MIDDLE FIELD

Lot 255, Pennsylvania Gas..... gas
Jennings, C. E. Carnahan 32..... 2
Courson, Stranburg & Nelson 1..... gas

Wells completed..... 3
Production..... 2
Gas..... 2

VENANGO-CLARION

Plumer, Henderson & Gibb 14..... 1
Graham, Emma Z. Hulin 22..... 1
Call, L. T. Call 9..... 1
Gilmore, Hovis, Gilmore et al 2..... 1
Walters, Vandresser & Co. 13..... 1
Roess, Brutche & Turk, Smith, Brutche & Turk 5..... abd
Roess, Brutche & Turk, Smith, Brutche & Turk 8..... 2
Stevenson, Midland Oil 32..... 3
Hovis, J. T. Atwell 4..... 1
Hovis, J. T. Atwell 5..... 1
Eakin, C. B. Reeves 13..... 1
Henderson, S. Y. Ramage 37..... 1
Eakin, J. C. Hettenbaugh 39..... 1
Iron & Coal, R. G. Hancox et al 1..... 1
Crawford, John Preston 5..... 2
Fisher, Hepler, Renfro et al 28..... dry
Smithman, J. B. Smithman 80..... 1
Tract 74, S. Y. Ramage 69..... 1
Tract 82, Brundred Oil Corp. 69..... 1
Miles, Miles, Leedom et al 2..... 1
Beers, Phillips, Reitzer & Braymer 1..... 1
Kuhns, H. L. Dale 164..... abd
Weaver, J. H. Weaver 1..... 1
Forest County—
Hammond, United Natural Gas 3654... gas
Mercer County—
McConnell, E. A. Bream Co. 3..... 1
Clarion County—
McElhatten, Whitehill & McElhatten 4.. 1
Fye, Weaver, Ray et al 1..... dry
Heeter, Marter & Hess 7..... 3
Kiser, A. L. Croup et al 2..... 1
Lewis, United Natural Gas 1..... gas
Kohler, Roess, Kohler et al 4..... 1
Thorn, W. Finnefrock 2..... dry
Garis, Mong, Garis et al 1..... 1
Markle, Freman & Edinger 1..... 1
Slicker, H. J. Slicker & Sons 8..... 1
Buckeye tract, Glasser & Gribel..... dry

Wells completed..... 34
Production..... 34
Dry..... 4
Gas..... 2
Abandoned..... 2

BUTLER-ARMSTRONG

Marshall, T. J. & W. J. Marshall et al 1 25
Seiple, Reamer & Co. 1..... dry
Thompson, J. L. Dart & Co. 1..... 2
McCafferty, East Brady Gas Fuel 1.... dry
Taylor, Birckbichler Brothers 2..... 1
Michel, Hunter & Hawkey 10..... gas
Pyle, E. H. Pyle 1..... 2
Goehring, J. A. Elliott 1..... 3
West, Garvin & Slagle 4..... 4
Barnhart, Keck, Ritzert et al 1..... 3
Smiley, Burns, Klever et al 1..... dry
Horner, J. S. Walker..... 5
Wick estate, Chambers Oil..... 2

Wells completed..... 13
Production..... 47
Dry..... 3
Gas..... 1

ALLEGANY FIELD

Rigs

McAndrew, E. J. Atwood et al.
Eastline Est., Ruby M. Buke et al.
Fanton, E. M. Ketchmer.
Duke, First National Bank of Olean.
Fee, Empire Gas & Fuel.
Fee, Empire Gas & Fuel.
Case & Putnam, Putnam & Wilson.
Deyce & Higbe, Love et al.
Fee, Emma McKewen.
Fee, Forest Oil.
Fee, Dusenbury et al.
Fee, Sawyer & Wasson.

Wells Drilling

Fee, Sawnett Oil Corp.
Childs, Neal K. Wilson.
Fee, G. N. Hill.
Fee, L. A. Wilson.
Fee, Jordan & Huggins.
Fee, S. & A. Austin.
Trask, J. A. Withey et al.
Fee, Empire Gas & Fuel Ltd.
Fee, Empire Gas & Fuel Ltd.
Thornton, Agt., C. O. & W. O. Taylor.
Fee, Empire Gas & Fuel, Ltd.
Fee, Hazelwood Oil.
Canfield, Carter & Bradley.
Fee, Empire Ltd. & Breckenridge.
Fee, J. E. Leasure et al.
Fee, Hazelwood Oil.
Fee, Birtcil & Birtcil.
Fee, Hazelwood Oil.
Fee, Forest Oil.
Fee, Maude Hardman.
Rigs, 12; wells drilling, 20; total, 32.

BRADFORD FIELD

Rigs

Burns, Arthur Yahn.
Vincent, S. H. Elder & Co. et al.
Bingham, H. E. Camp Est.
Lawton, Cohn & South Penn.
Lafferty, Hazelwood Oil.
Bing. 439, South Penn Oil 73.
Ware, South Penn Oil 77.
Moody 54, South Penn Oil 33.
Bing. 388, C. L. Wann et al 43.
Fee, Hugeville et al 4.
Franchot, D. & P. Oil 21.
Leasure, South Penn Oil.
Erie R. R., South Penn Oil.
Fee, M. E. Jones.
Fee, Kaber & Kaber 88.
Bing. 184, Associated Prod. 330.
Fee, South Penn Oil 33.
Bing. 452, South Penn Oil 49.
Bing. 150, South Penn Oil 53.
Bing. Associated Prod.
Fee, W. N. Hunter et al.
Phoenix & Kennedy, Holding Oil Corp. 20
Bing. 136, Kennedy Co. No. 4, 51.
Bing. 568, Associated Prod. 327.
Bing. 576, South Penn Oil 96.

Wells Drilling

Fee, South Penn Oil 71.
Fee, E. L. & S. B. Shippey 10.
Fee, L. D. Andrus et al 13.
Fee, J. C. Looker et al 20.
Armstrong Est., South Penn Oil.
Franchot, W. C. Kennedy Co.
Franchot, H. & J. G. Shannon.
Fee, Hazelwood Oil 18.
Fee, J. A. Walters Est. 38.
Franchot, Wilson & Yeager 4.
South Penn Oil, John Jackson 16.
Griffith et al, Hartzel & Knabb.
Bryner, M. E. Jones.
Fee, A. W. Palmer.
Fee, South Penn Oil.
Fee, A. A. Park.
Fee, Sabra J. George.
Fee, South Penn Oil 14.
Bing. 184, Associated Prod. 277.
Fee, Wm. C. Kennedy Co. 39.
Bing. 150, South Penn Oil 51.
Fee, Wm. C. Kennedy Co. 38.
Bing. 184, Associated Prod. 321.
Bing. 184, Associated Prod. 329.
Bing., Associated Prod. 288.
Bing., Associated Prod. 301.
Bing., Associated Prod. 291.
Fee, South Penn Oil 88.
Kennedy & Clarke, Phoenix Oil 153.
Bing. 136, Kennedy Co. No. 4, 56.
Paul Est., South Penn Oil 18.
Fee, Hazelwood Oil.
Fee, J. W. Bouton.
Bing. 427, Scofield & White.
Bing. 439, South Penn Oil.
Bing., Hazelwood Oil.
Bing. 499, South Penn Oil 36.
Bing. 439, South Penn Oil 70.
Bing. 538, South Penn Oil 62.
Bing. 533, South Penn Oil 63.
Bing. 591, Associated Prod. 328.
Bing. 570, South Penn Oil 100.
Bing. 581, Associated Prod. 327.
Bing. 369, D. W. Daly 55.
Bing. 370, C. L. Wann et al 33.
Bing. 370, R. M. & James George 14.
Bing. 369, Forest Oil, Inc. 40.
Bing. 420, G. C. Grow 26.
Bing. 377, Lane No. 1 et al 67.
Bing. 391, George W. Bovaird 71.
Bing. 389, D. W. Daly 35.
Bing.-Satt., South Penn Oil 96.
Bing. 533, South Penn Oil 63.
Bing.-Johnson, South Penn Oil 49.
Bing 439, South Penn Oil 71.
Bing.-Culbertson, South Penn Oil 36.
Bing. "400" acres, South Penn Oil 53.
Blair, South Penn Oil 44.
Paul, South Penn Oil 18.
Hamlin, South Penn Oil 91.
Melvin, South Penn Oil 168.
Melvin, South Penn Oil 169.
Curtis & Quinn, South Penn Oil 38.
Burdick, South Penn Oil 40.
Burdick, South Penn Oil 40.
Jones, South Penn Oil 199.
Borden, W. B. Miller.
Borden, T. P. Thompson & Son.
Borden, C. J. Mitchell.
Baldwin, Forest Oil.
Noble, Forest Oil.
Middaugh, L. J. Lilly Est.
Barse, Burns Bros.
Keating, Potter & Nichols.
Burns, Arthur Yahn.
D. C. & B. A. Schorman.
Fee, G. L. Schoff.
Loop, E. M. Daly.
Jones, South Penn Oil.
Morse, Joseph Minnich.
Lawton, Cohn & South Penn.
Bingham, J. L. Verdon.
Wright, Wright & Johnson.
Bingham, Andrus & MacDowell.
Lot 2593, Hoskins & Roeder.
Lot 3767, F. J. Moser 23.
Lot 385, Kane Oil 39.
Larsen, Bennet & Shear.
Bingham, Hazelwood Oil.
Enterprise, Hazelwood Oil.
Willett, J. H. Gibson
Gibson, Hazelwood Oil.
Raver, J. F. Magee.
Sill, Hope Oil.
Bingham, Barry Bros.
Corwin, J. H. Gallagher.
Jack, J. & H. M. Jack.
Hodge, South Penn Oil.
Melvin, South Penn Oil (four wells).
Rigs, 25; wells drilling, 101; total, 126.

MIDDLE FIELD

Rigs

Osgood, Rembold & Co. 4.
McClafferty, Goren & Co. 1.

Wells Drilling

O'Hara, Penquignot & Co. 10.
Rigs, 2; wells drilling, 1; total, 3.

VENANGO-CLARION

Rigs

Collear, F. A. Bream Co. 14.

Wells Drilling

Lye, Wilber & Geltz.
Collins, Louden & Doverspike 29.
Donaldson, Donaldson, McDowell et al 2.
Edinger, Hovis, Porter et al 2.
Gilmore, McCandless, Hintman et al 14.
Porter, Smith, Walters et al 36.
Sweetapple, W. H. & A. L. Sweetapple 33.
Stevenson, Midland Oil Corp. 33.
Hollister, S. Y. Ramage 43.
Smithman, J. B. Smithman 81.
Tract 74, S. Y. Ramage 70.
Crawford & Gregory, Oil Well Supply 105.
Detar, F. Banner 1.
Kapp, Alum Rock Gas 1.
Tracy, Brundred Oil.
Miller, Liken 1.
Clarion—
Whitling, Alum Rock Gas 10.
Heeter, Master & Hess 8.
Corbett & Wilson, H. W. Wilson 4.
Varner, Franklin Trust 5.
Best, Alum Rock Gas.
Hockman, D. J. Shaner 9.
Rigs, 1; wells drilling, 22; total, 23.

BUTLER-ARMSTRONG

Rigs

Helm Heirs, Elliott & Noff 2.
Evans City Cemetery, Wm. Pfeifer & Co. 2.
Shepard, American Natural Gas 1.
Kamerer, Mr. & Mrs. E. R. Kamerer 3.
Kaylor, McCullough Gas 1.
Brady Tract, L. D. Berry 29.
Rader, A. Rea 4.
Robinson, Robinson & Berry.
Boggs Heirs, R. C. & W. V. Binkerd.
Donnelly, Bear Creek Oil.

Wells Drilling

Hartung Heirs, American Natural Gas 1.
Rice, George Garwick & Co. 1.
Neel Heirs, Edeburn & Co. 1.
Henry Heirs, American Natural Gas 1.
Wylie Heirs, Saxonburg L. & H. 1.
Woods, Woods & Heeter 1.
Connors, Simon Connors 1.
Keystone Mining, Wm. & E. J. Porter et al 1.
Kohler Heirs, E. J. Dodds et al 1.
Huselton, J. M. Hicks 21.
Niblock, J. A. Elliott & Co. 2.
Sasse Heirs, Denny, Sasse et al 4.
Pyle, E. H. Pyle 2.
Cookson, Garvin et al 1.
Croft, Garvin et al 1.
Bell, Craig, Hindman et al 3.
Campbell, H. H. Campbell 3.
McKinney, G. F. Hovis et al 1.
Campbell, Campbell & Sherwin 2.
Bell Heirs, Smith & Burkett et al 1.
Barnhardt, W. D. Carrier et al 3.
Campbell, Baird, McCandless et al 3.
Campbell, Lease 2, Baird, McCandless et al 1.
Christy, Craigh & Timblin 2.
Meals Heirs, Carl Hillard et al 10.
Smith, Jane Oil.
Snow, A. C. Snow.
Rigs, 10; wells drilling, 27; total, 37.

SOUTHWEST PENNSYLVANIA
WASHINGTON COUNTY

Wells Completed

Wilson, New Oil & Gas Co. 11..... gas
Carter, Karns & Co. 1..... dry

ALLEGHENY COUNTY

Wells Completed

McCalister, Morse O. & G. Co. 1..... dry
Huch, M. M. Walley 1..... 3
Hahn, L. Hahn & Co. 5..... gas
Hillman, Pinkerton & Co. 1..... gas
Heil, Fisk & Co. 2..... gas
Robison, Robison & Co. 2..... gas
Frye, Frye & Co. 1..... gas
Ehrman, Black Bros. 1..... 2

BEAVER COUNTY

Wells Completed

McDevitt, Edwards Oil Co. 8..... 1

GREENE COUNTY

Wells Completed

Garrison, J. L. Garard & Co. 30..... dry
Henderson, Carnegie Gas Co. 1..... 70
Lemley, Carnegie Gas Co. 1..... gas
E. Lemley, Phila. Co. 1..... 10
Headley, Carnegie Gas Co. 2..... gas
Parsons, Carnegie Gas Co. 2..... gas
Keyes, N. G. Co. of W. Va. 1..... gas
Pethel, Milligan & Co. 1..... gas
Earnest, McCracken-Orndoff O. Co 1.. gas
King Heirs, Dunmar O. & G. Co. 1.. gas
Throckmorton, Carnegie Gas Co. 1.... gas

Wells completed..... 22
Production..... 86
Dry..... 2
Gas..... 14

WASHINGTON COUNTY

Rigs

Ellwood, Emerald Pet. Co. 1.

Wells Drilling

Day, Manufacturers L. & H. Co. 2.
McCarty, West Beth. O. & G. 1.
Mansfield, Tague, Luttin & Co. 1.
Lutton, Tague, Lutton & Co. 2.
Berry, Grayson & Perry 1.

ALLEGHENY COUNTY

Rigs

McKinney, M. L. Williams 2.

Wells Drilling

Pahlman Heirs, American N. G. Co. 3.
Hiland Dev. Co., M. M. Walley 1.
Fowler, Elliott & Co. 2.
Watenpool, Leidecker & Co. 1.
Hicks, Black Bros. & Co. 3.
Pittsburgh Coal Co., S. D. Robinson 2.
Rex, Cobert O. & G. Co. 1.

BEAVER COUNTY

Wells Drilling

Swearingen, P. R. Laughlin 1.
Clawlook, G. W. Dawson & Co. 1.

GREENE COUNTY

Rigs

Kent, Peoples Gas Co. 1.
Phillips, Peoples Gas Co. 2.
Hughes, Unknown 1.
Brown, Brown O. & G. Co. 4.
Brooks, Raymond Oil Co. 7.

Wells Drilling

South, Fred Garrison 1.
Kennedy, Shannon Run O. & G. Co. 2.
Stephens, Phila. Co. 1.
Lemley, Carnegie Gas Co. 1.
Headley Heirs, C. M. Fox O. & G. Co. 1.
Patterson, Davis O. & G. Co. 1.
Lemley, Peoples Gas Co. 1.
Litman, Clovis O. & G. Co. 1.
Williamson Heirs, J. L. Garard 4.
Rutan, Carnegie Gas Co. 1.
Campbell, Carnegie Gas Co. 2.
Carter, N. G. Co. of W. Va. 1.
Muckle, Waynesburg Home G. Co. 1.
Closser, Mfrs. L. & H. Co. 9.
Gardner, Mfrs. L. & H. Co. 1.
Mankey, Greensboro Gas Co. 1.

WESTMORELAND COUNTY

Wells Drilling

Booth Flinn, Peoples Gas Co. 2.
Seger Bros., Peoples Gas Co. 1.
Rigs, 7; wells drilling, 32; total, 39.

SOUTHEASTERN OHIO
MONROE COUNTY

Wells Completed

Gutherie, Newhart Drilling Co. 1..... 1
English, Carter Oil Co. 8..... 1
Hall, Simmons Oil Co. 1..... 10
Anderson, Wabash Oil Co. 2..... dry
Cronin, Sylvan Oil Co. 1..... dry
Smith, Latmire & Co. 11..... dry
Cox, Carner & Co. 3..... dry

PERRY COUNTY

Wells Completed

Gergers, Flint Ridge Oil 1..... gas

HOCKING COUNTY

Wells Completed

Sadler, Preston Oil Co. 1..... 10
Devore, Preston Oil Co. 3..... dry
H. V. P. Co., Chartiers Oil Co. 190.... 334
Tracey Estate, Kacheimacher Est. 13.. 236
James, Schull & Bell 1..... 3
H. V. P. Co. Chartiers Oil Co. 189.... dry
Walters, Chartiers Oil Co. 2..... 3
Sunday Creek Coal Co., Sunday Creek Coal Co. 119..... dry

LICKING COUNTY

Wells Completed

Bowser, Midland Oil Co. 2..... dry
Richter, Central Ohio G. Co. 1..... dry
Armstrong, Flint Ridge O. & G. Co. 5.. 60
McKinney, Jones, Reese & Co. 2..... 5
McKinney, Jones, Reese & Co. 3..... 5
Stewart, Rugg & Co. 1..... 3
Bebout, Snyder & Carson 18..... 7
McCements, W. Speary 13..... 3
McKee, Snyder & Co. 18..... 3
Bircker, Ralph Bros. 3..... gas
Fetty, Ohio F. S. Co. 1..... 4
Vanderbark, Carter Oil Co. 2..... 40
McGonagle, Spindler & Donalson 8..... 75
McGonagle, Spindler & Donalson 2..... 3
Stevens, Adams & Co. 3..... 4
McKee, E. H. Everett Co. 1..... dry
Hone, F. M. Rugg & Co. 1..... 1
Darnes, H. W. & A. T. Wehrle 4..... 2
Smith, W. W. & A. T. Wehrle 2..... 2
Parr, W. W. & A. T. Wehrle 3..... 3
S. Darnes, W. W. & A. T. Wehrle 7.... 80

COSHOCTON COUNTY

Wells Completed

Ashcraft, Pure Oil Co. 2..... 3
Veatch, W. M. Cline & Co. 2..... 100
Hardesty, Ark. Fuel Oil Co. 1..... 7

HOLMES COUNTY

Robinson, Ohio Oil Co. 1..... 3
Smith, East Ohio Gas Co. 2..... gas
Johnson, East Ohio Gas Co. 3..... dry
Snyder, Central Ohio Gas Co. 1..... gas
Connor, Central Ohio Gas Co. 1..... gas
Schurer, Central Ohio Gas Co. 1..... gas
Forry, East Ohio Gas Co. 3..... 40
Watts, Central Ohio G. Co. 1..... dry
Keiser, Martin & Co. 8..... 2

GUERNSEY COUNTY

Wells Completed

Addy, Ohio F. S. Co. 1..... gas

FAIRFIELD COUNTY

Wells Completed

Hoover, Helsey Gas Co. 1..... gas
Morrow, Clinton O. & G. Co. 1..... gas
Turpie, Sturm & Co. 1..... gas
Folk Heirs, Rush Creek O. & G. Co. 1. 15

KNOX COUNTY

Wells Completed

Scales, East Ohio Gas Co. 1..... 3
Dailer, Preston Oil Co. 1..... 5

NOBLE COUNTY

Wells Completed

McWilliams, Kemp & Co. 1..... dry
Cisler, Ronshausen & Co. 3..... dry
McFarland, Hendershot & Co. 8..... 2
Dilleyhay, Miller & Co. 3..... dry
Ackley, E. E. King & Co. 1..... dry

MEIGS COUNTY

Wells Completed

Cross, Brocalsa Chem. Co. 2..... 10
Cowell, Ohio F. S. Co. 2..... 2

ATHENS COUNTY

Wells Completed

Drake, Murray & Co. 1..... dry
Whaley, W. J. Serry 2..... 10
Whaley, W. J. Serry 3..... 15
Smoot, Townsen Oil Co. 2..... 10
Radford, Grow Oil Co. 1..... gas
Crosson, Bart Oil Co. 1..... dry
Harrington, Rauch O. & G. Co. 1..... 15

MORGAN COUNTY

Wells Completed

Swyster, Sun Oil Co. 4..... 30
Baringer, Pure Oil Co. 7..... 30
Bell, Pure Oil Co. 2..... 30
Fye, Pure Oil Co. 1..... 70
Epply, Pure Oil Co. 1..... 90

WASHINGTON COUNTY

Wells Completed

Walker, Blair Oil Co. 1..... 25
Helsop, Beeson Bailey & Co. 5..... 5
Oliver, Dutch Oil Co. 12..... 15
Hendershot, J. S. Archer 2..... gas
Berger Oil Co., First National Bank 3.. 1
Rosenbush, Otto Becker 7..... 1
Devol Bros., Lucky Oil Co. 7..... 1
Trainer Earl Stephens 1..... 5
Edwards, Harris & Co. 2..... 20
Rubrake, Geo. Hess & Sons 19..... dry
Morganstein, Louis Ray & Co. 1..... dry
Johnson, J. W. Cottingham 5..... 10
Lauer, J. C. Carner & Co. 1..... gas

CARROLL COUNTY

Wells Completed

McClain, McConnehay & Co. 1..... dry

Wells completed..... 49
Production..... 1190
Dry..... 20
Gas..... 12

MONROE COUNTY

Wells Drilling

Camden, Devore O. & G. Co. 1.
Platt, Bode & Co. 1.
Scott, Welchbacher & Co. 2.
Hartshorn, Berea Oil Co. 2.
Hearchers Heirs, H. Hearchers 11.
Dillon, Dillon Oil Co. 3.

PERRY COUNTY

Rigs

Moore, Athy Oil Co. 1.
Paxton, Holliday O. & G. Co. 3.

Wells Drilling

Sunday Creek C. Co., John Denman & Son 45
Trout, Midland Oil Co. 1.
Donahue Heirs, Marshall & Marshall 26.

HOCKING COUNTY

Rigs

Lick, R. C. & C. Co., E. L. Stephens 1.
Johnston, Griffin Prod. Co. 6.
H. V. P. Co. Chartiers Oil Co. 192.
Tracey Est., Kachelmacher Est. 14.

Wells Drilling

Kitchen, Gordon Oil Co. 1.
Stone, Carter Oil Co. 1.

H. V. P. Co., Chartiers Oil Co. 191.
Coe, Evans Oil & Gas Co. 2.

LICKING COUNTY

Rigs

Bell, Carter Oil Co. 1.
Mercer, Carter Oil Co. 1.
Patton, E. H. Everett Co 1.

Wells Drilling

Bowers, Glen Oil Co. 2.
Bebout, Snyder & Carson 19.
Licking County Fair Ground, Ohio F. S. Co. 1.
Rector, Ohio F. S. Co. 1.
Somerville, Carter Oil Co. 2.
Motherspaw, Saltzgaber & Son 6.
Smith, Pure Oil Co. 1.
McMillan, Pure Oil Co. 3.
Guthridge, Bishop & Patton 1.
Zartman, W. W. & A. T. Wehrle 1.
Taylor, W. W. & A. T. Wehrle 5.
Fetty, W. W. & A. T. Wehrle 5.

COSHOCTON COUNTY

Rigs

Wolford, Spindler & Donlan 4.
McKee, Spindler & Donlan 4.
Ashcraft, Pure Oil Co. 3.
Crawford, Pure Oil Co. 7.

Wells Drilling

Moore, Carter Oil Co. 1.

HOLMES COUNTY

Rigs

Finney, Central Ohio G. Co. 1.
Uhl, Ohio F. S. Co. 2, 3.

Wells Drilling

Marquis, Pure Oil Co. 1.
Kendall, East Ohio G. Co. 1.
Shonk, East Ohio Gas Co. 1.
Bird, East Ohio Gas Co. 1.
Allison, Central Ohio Gas Co. 1.
Leppla, Central Ohio Gas Co. 1.
Davenport, Central Ohio Gas Co. 1.
Allison, Central Ohio Gas Co. 1.
Karns, Central Ohio Gas Co. 2.
Bells, Central Ohio Gas Co. 2.
Barnes, Kline & Co. 5.
Barnes, Ohio F. S. Co. 1, 2.
Uhl, Ohio F. S. Co. 2.
Karns, Ohio F. S. Co. 2.
Mackey, Morgan, Stephenson & Co. 1.
Gamble, East Ohio G. Co. 1.
Sterling, East Ohio Gas Co. 1.
Franks, Carter Oil Co. 2.
Mast, Logan Gas Co. 1.
Hall, Pure Oil Co. 3.

GUERNSEY COUNTY

Rigs

Williams, Ohio F. S. Co. 1.
Snell, Ohio F. S. Co. 1.

Wells Drilling

Rankin, Ohio F. S. Co. 1.
Worthing, Ohio F. S. Co. 1.
Abbott, Ohio F. S. Co. 1.
Cornelius, Ohio F. S. Co. 1.
Keith, Keith Bros. 1.
Bachten, Leonard O. & G. Co. 1.

FAIRFIELD COUNTY

Rigs

Dittoe, Planet Oil Co. 20.

Wells Drilling

Johnston, Weirick & Nolder 10.

KNOX COUNTY

Wells Drilling

Nyhart, East Ohio P. & R. Co. 20.

NOBLE COUNTY

Wells Drilling

Walters, W. & N. O. & G. Co. 1.
Sherbourne, W. O. Walters 3.
Westcott, Earl Stephens & Co. 1.
McWilliams, Kemp & Co. 11.
Wecaldon, E. E. King & Co. 1.
Lyons, Pure Oil Co. 1.

MUSKINGUM COUNTY

Rigs

Findley, Carter Oil Co. 2.
Dutro, Carter Oil Co. 2.

Wells Drilling

Nethers, Pure Oil Co. 1.
Wildham, Mideast Oil Co. 1.
Irvin, Teague Oil Co. 1.

MEIGS COUNTY

Rigs

Cross, Brocalsa Chem. Co. 3.

Wells Drilling

Raush, C. W. Eagler 1.
Ihle, C. E. Giffin 3.
Cross, R. G. Gillespie 2.

ATHENS COUNTY

Rigs

Figley, R. G. Gillespie 1.

Wells Drilling

Whaley, W. J. Sperry 4.
Braley, Edmonston & Co. 1.
Radford, Grow Oil Co. 2.
Murphy, Southern Oil Co. 1.
Wolfrum, Home Oil Co. 1.
Harrington, Rauch O. & G. Co. 2.
Lazeman, Mears & Nolan 1.

MORGAN COUNTY

Wells Drilling

Edgerton, Metcalf & Co. 15.
Bailey, Sun Oil Co. 3, 4.
Souders, Sun Oil Co. 1.
Epply, Pure Oil Co. 2, 3.
Smith, Pure Oil Co. 1.

WASHINGTON COUNTY

Rigs

Amos, Hill & Co. 2.

Wells Drilling

Erbs, Huntsman & Co. 1.
Howell, Lauffer & Co. 2.
Dauber, Dauber & Co. 10.
Daniels, W. F. Meister & Co. 20.
Gross, Waxler & Metcalf 6.

BELMONT COUNTY

Rigs

Henderson, D. & M. O. & G. Co. 3.

JEFFERSON COUNTY

Rigs

Groves, Boyce & Boyce 1.

Wells Drilling

Buchanan, Mark Miller & Co. 3.
Rigs, 25; wells drilling, 89; total, 114.

WEST VIRGINIA
LEWIS COUNTY

Wells Completed

Gillan, Mud Lick O. & G. Co. 1..... gas

HARRISON COUNTY

Wells Drilling

Keesey, Marsh & Woodell 1..... gas
Miley, Hope Gas Co. 1..... gas
Reed, Clarksburgh L. & H. Co. 1..... dry

MARION COUNTY

Wells Completed

Lemley Heirs, Moore-Tex Oil Co. 1.... dry
Coogle, Victor Oil Co. 2..... gas
Moore, Owens B. & M. Co. 1..... gas
M. Moore, Horner Bros. 1..... gas
Baker, Maxon O. & G. Co. 4..... 10
Toothman, Carnegie Gas Co. 1..... gas

MONONGALIA COUNTY

Wells Completed

Tennant, Dunmar O. & G. Co. 5..... 1
Cowell, Carnegie Gas Co. 1..... dry

WETZEL & TYLER COUNTIES

Wells Completed

Strosnider, Boundy Bros. 1..... dry
Conesy, Carnegie Gas Co. 1.....
Robinson, So. P. O. Co. 23..... dry
Stephens, So. P. O. Co. 10..... dry
Ullom, Mfrs. L. & H. Co. 3..... gas
Brooks, Morgan Bros. & Co. 1..... 30

MARSHALL COUNTY

Wells Completed

Otte & Sons, G. P. Wasmuth & Co. 2... dry
Markey, U. S. Stamping Co. 2..... 10

DODDRIDGE COUNTY

Wells Completed

Kelly, Trainer & Travis 1..... dry
Ellifritt, Hope C. & R. Co. 8..... 25
Maxwell, Columbian Carbon Co. 53..... gas
Maxwell, Columbian Carbon Co. 54..... gas
Perine, Pigott & Co. 1..... 10
Ash, Carter Oil Co. 1..... 15

RITCHIE COUNTY

Wells Completed

Somerville, Heckert & Co. 1..... gas
Warner, Stephens Drilling Co. 1..... gas
Prather, Smith & McCullough 1..... gas
Mason, Hope Gas Co. 1..... gas
Conrad, Spruce O. & G. Co. 1..... gas
Lawrence, Hays & Roberts 4..... gas
Carnes, Hope C. & R. Co. 1..... dry
Grogg Heirs, So. P. O. Co. 1..... 3
Rector Bros., G. L. Rector 1..... dry
Duerr, J. L. West & Co. 1..... dry
Nutter, Pgh. & W. Va. G. Co 1..... dry
Freeman, Clifton O. & G. Co. 1..... 30
Duty, Hope C. & R. Co. 2..... 5
Null, Mellon Bros. 6..... 5

GILMER COUNTY

Wells Completed

Gaine, Pittsburgh & West Va. G. Co. 1 gas
Fisher, Hope C. & R. Co. 1..... 2
Simons, O. Bell & Co. 1..... gas

BRAXTON COUNTY

Wells Completed

Bender, W. Va. Central G. Co. 1..... dry
Bender, West Va. Central Gas Co. 2.. dry
Stout, P. K. O. & G. Co. 2..... gas
Laugh, Reno O. & G. Co. 1..... dry

WIRT COUNTY

Wells Completed

Donoho, W. C. Patterson 16..... 6

WOOD COUNTY

Wells Completed

Ross, W. G. Decker 1..... 2
Lawer, C. S. Reed & Co. 1..... 2

PLEASANTS COUNTY

Wells Completed

Westbrook, Brady & Co. 2..... dry
Ogden-Ross, Creek Oil Co. 3..... 2
County Farm, C. D. Sloane 1..... dry
Hammett Heirs, Frank Shrier 7..... 1

ROANE COUNTY

Wells Completed

McDade, Carter Oil Co. 1..... gas
Shephard, Heck Oil Co. 2..... gas

CALHOUN COUNTY

Wells Completed

Davis, Hope C. & R. Co. 2..... gas
Baker-Baughman, Great Elk Oil Co. 24 2
Huffman, Chartiers Oil Co. 5..... gas
Bell, Hope Gas Co. 1..... gas
Burrows, Hope Gas Co. 1..... gas
Gainer, Hope Gas Co. 1..... gas
Stephens, Heasley Bros. 1..... dry
Loudin, Park & Dailey 1..... gas

CLAY COUNTY

Wells Completed

Samples, Chalmers O. & G. Co. 9..... 15
Jarvis, Ohio Fuel Oil Co. 1..... 15
Patrick, U. F. G. Co. 1..... 15

PUTNAM COUNTY

Wells Completed

Beckett, Sovereign Gas Co. 1..... gas
Bays, Commercial Gas Co. 1..... gas

LINCOLN COUNTY

Wells Completed

Barrett, Ray O. & G. Co. 2..... gas
Commercial Realty Co., C. C. Wolfe 1.. gas
Miller, Columbia G. & E. Co. 1..... gas

CABELL COUNTY

Wells Completed

Wallace, Aetna O. & G. Co. 4..... gas
Sponagle, Consolidated O. & G. Co. 1.... gas
Johnson, Harrhbarger O. & G. Co. 1.... gas
Walton, Walton O. & G. Co. 3..... gas

KANAWHA COUNTY

Young, Rashman & Staunton 3..... dry
Canterberry, U. F. G. Co. 1..... gas
Donahue, U. F. G. Co. 1..... gas
Dodd, U. F. G. Co. 1..... gas
Vickers, Columbian Carbon Co. 1..... gas
Brumfield, Meabon & Co. 1..... gas

BOONE COUNTY

Wells Completed

R. P. & L., Pure Oil Co. 4..... 15
Hall, Owens B. & M. Co. 1..... gas
Bedford, Owens B. & M. Co. 5..... gas

MINGO COUNTY

Wells Completed

Closterman Est., Public Gas Corp. 7... gas

Wells completed	86
Production	222
Dry	19
Gas	44

LEWIS COUNTY

Rigs

Bond, White Oak O. & G. Co. 1.
Ward, Hope Gas Co. 1.

Wells Drilling

Snider, Hope Gas Co. 2.
Rohrbaugh, Federal O. & G. Co. 2.

HARRISON COUNTY

Rigs

Sullivan, Hope Gas Co. 1.

Wells Drilling

Allbright, Hope Gas Co. 7.
Stout, N. W. O. & G. Co. 1.
Smith, W. Va. C. Gas Co. 1.
Gaton, Hope Gas Co. 1.

PRESTON COUNTY

Wells Drilling

Gordon, Hope Gas Co. 1.

MARION COUNTY

Rigs

Moore, Moore-Tex Co. 2.
Metz, S. N. Elliott 1.
Rowand, R. S. Monroe & Co. 1.

Wells Drilling

Fleming, Davenport O. & G. Co. 1.
Cannon, Martin O. & G. Co. 2.
Smith, Owens B. & M. Co. 1.
Barr, Owens B. & M. Co. 1.
Keelover, W. Va. Utilities Co. 1.
Nichols, Owens B. & M. Co. 1.
Davis, Hope Gas Co. 1.
Fleming Heirs, Morgantown O. & G. Co 1.
Murray, Carnegie Gas Co. 3.

MONONGALIA COUNTY

Wells Drilling

Haught, Wm. Haught 9.
Price Heirs, Hope C. & R. Co. 1.
Moore, Carnegie Gas Co. 1.
Varner Heirs, Dunmar O. & G. Co. 17.

WETZEL AND TYLER COUNTIES

Rigs

Antill, Johns Gas Co. 5.
Ice, L. L. Gorrell 1.
Bartrug, Mfrs. L. & H. Co. 3.
McDevitt Heirs, Mfrs. L. & H. Co. 2.
Hamilton, Carter Oil Co. 3.

Wells Drilling

McIntyre, Hope C. & R. Co. 1.
Smith, Hope C. & R. Co. 1.
Wade, Silver Hill Oil Co. 3.
Ingram, Hope C. & R. Co. 1.
Smith, Pittsburgh & W. Va. G. Co. 3.
Allen Heirs, Myers O. & G. Co. 1.
Littell, Johns Gas Co. 2.
Orndoff, Littleton Gas Co. 1.
Knapp, Mfrs. L. & H. Co. 3.

MARSHALL COUNTY

Rigs

Bonar, Decem Dev. Co. 2.
Ritter, Mfrs. L. & H. Co. 2.
Kellar, Mfrs. L. & H. Co. 4.
Ryan, Mfrs. L. & H. Co. 2.
Riley Heirs, Wasmuth & Co 1.

Wells Drilling

McCluskey Heirs, Waynesburg G. Co. 1.
Evans, Decem Dev. Co. 1.
Pyles, Mfrs. L. & H. Co. 2.
Closton, G. B. Patterson 3.
McConahay, Mfrs. G. & E. Co. 1.
Markey, Decem Dev. Co. 2.

DODDRIDGE COUNTY

Rigs

Burbridge, W. D. Gribble & Co. 2.
Roberts, Keystone Oil Co. 4.

Wells Drilling

Burbridge, J. E. Trainer 1.
Douglas, Trainer & Travis 2.
May, Loudin & Co. 4.
Dotson, Carter Oil Co. 1.
Williams, Hope C. & R. Co. 5.
Smith, Carter Oil Co. 1.
Underwood, Berry & Underwood 1.
Merritt, Hope C. & R. Co. 1.

RITCHIE COUNTY

Rigs

Leggett, Elder & Staley 1.
Bartlett, Hope Gas Co. 1.
Lemon, So. P. O. Co. 41.
Haugh-Lambert, So. P. O. Co. 9.
W. Va. Tractor, Rome Wiles 5.
W. Va. Tractor, Whitewood Oil Co. 29.
Rector, G. L. Rector 2.
Hudson Heirs, Continental O. & G. Co. 3.
Shahan, Nay & Co. 1.

Wells Drilling

Mason, Hope Gas Co. 3.
W. Va. Tract, Cold Test Oil Co. 14.
Howell, Moore & Co. 1.
Jonas, Coss O. & G. Co. 3.
Haymond, Premier Glass Co. 4.
Doak-McCullough, T. Lambert 1.
Smith, Phila. Oil Co. 5.
Freeman, Clifton O. & G. Co. 2.
McGinnis, Marco Oil Co. 1.
Hardbarger, J. E. Hardbarger 1.
Burke, Continental O. & G. Co. 6.
Rossin, Reno Oil Co. 2.
Newbrough, Adams Oil Co. 4.
Fox, E. E. Pope 1.
Pifer, Mahaney & Lucas 1.

GILMER COUNTY

Rigs

Goff, So. P. O. Co. 8.
Hardman, So. P. O. Co. 6, 7.
Ellis, So. P. O. Co. 3.
Bush-Holt, Hope Gas Co. 2.
Gainer, Hope C. & R. Co. 5.
Hardman, Hope C. & R. Co. 6.
Law, Pittsburgh & West Va. G. Co. 1.

Wells Drilling

Bennett Heirs, Hope Gas Co. 1.
Ward, Hope Gas Co. 1.
Gainer, Star O. & G. Co. 1.
Bollinger Heirs, Ben Bell & Co. 1.
Jackson, Chemical O. & G. Co. 1.
Frederick, Hope C. & R. Co. 1.
Rothwell, G. L. Cabot 1.
Bennett heirs, W. D. Gribble 5.
Long, Valley Oil & Gas Co. 1.

BRAXTON COUNTY

Rig

Friend, W. Va. C. G. Co. 3.

Wells Drilling

Engle, W. Va. C. G. Co. 2, 3.
Vanscoy, Pittsburgh & W. Va. G. Co. 1.
Hawkings, Pittsburgh & W. Va. G. Co. 1.
Bull, N. H. Clayton 1.

WIRT COUNTY

Wells Drilling

Daubenspeck, A. F. Daubenspeck 3.
Swisher, Roberts Oil Co. 10.

WOOD COUNTY

Rig

Pope, E. E. Pope 2.

Wells Drilling

Vincent, Rexroat & Rogers 1.
Bush, J. L. West & Co. 1.
West, Big Sand Oil Co. 1.
Stone, W. T. Stephens 3.
Lawer, Hoagland Oil Co. 1.
Drain heirs, Henderson Oil Co. 3.
Kelly, Quick Davis Oil Co. 2.
Davis, T. J. Rothwell 1.
Hendershot, J. P. Shore 11.

PLEASANTS COUNTY

Rigs

Allen, W. H. Nolan & Co. 2.
Hamilton, Carter Oil Co.

Wells Drilling

Newlan, White & Casper 1.
Wagner, Bottom Oil Co. 1.
Racer, B. E. Krippen 2.
Cokely estate, Johnson Oil Co. 1.
King, Hope C. & R. Co. 1.
Knight, Knight Farm Oil Co. 3.
White, F. D. Meister 16.
Fleming, Rock Run Oil & Gas Co. 3.

ROANE COUNTY

Rigs

Larch, O. F. O. Co. 19.
Craig, So. P. O. Co. 19.
Burrows, Heck Oil Co. 1.

Well Writing

Young, Richardson 1.

CALHOUN COUNTY

Rigs

Bell, Hope C. & R. Co. 2.
Holbert, M. F. Crowley 1.
Baker-Baughman, Great Elk Oil Co. 22.
Stump, Hope Gas Co. 1.
Garrett, Hope C. & R. Co. 1.
Force, Carter Oil Co. 1.

Wells Drilling

Maze, Southern Oil Co. 1.
McCulty, Hope Gas Co. 1.
Linn, Hope Gas Co. 1.
Garrett, 19A, Hope C. & R. Co.
Yoak, Euclid O. & G. Co. 1.

JACKSON COUNTY

Well Drilling

McCoy, Henderson Oil Co. 1.

CLAY COUNTY

Rigs

Goshorn tract, Shelton G. & O. Co. 17.
King heirs, White Sand Pet. Co. 3.

PUTNAM COUNTY

Rig

Wheeler tract, Logan Gas Co. 2.

LINCOLN COUNTY

Rig

Adkins, Orlando O. & G. Co. 3.

Wells Drilling

Ray, C. C. Wolfe 5.
Adkins, Columbia Gas Co. 1.
G. H. Adkins, Superior Gas Co. 5.
T. Adkins, Superior Gas Co. 2.
C. Adkins, Roy McComas 1.
Osborne, Star Oil & Gas Co. 2.
Baker heirs, Baker Brothers 1.
Cline, Columbia Gas Co. 1.
Miles, Carter Oil Co. 1.

CABELL COUNTY

Rig

Vance, Midway City Gas Co. 2.

Wells Drilling

Schaub, Commercial Gas Co. 1.
Carter, Aetna Oil & Gas Co. 1.
Duty, Consolidated Oil & Gas Co. 1.
Alexander, O. F. O. Co. 1.
Templeton, C. O. Nixon & Co. 1.
Schaub, Monocle Oil & Gas Co. 1.

KANAWHA COUNTY

Rig

Imperial Coal Co. U. F. G. Co. 39.

Wells Drilling

G. K. P. & L. Co., Owens B. & M. Co. 13.
Quarrier, Owens B. & M. Co. 3.
Boyd, U. F. G. Co. 1.
Robson-Prichard, U. F. G. Co. 1.
Imperial Coal Co. U. F. G. Co 40.
Williams Coal Co., Pure Oil Co. 199.

BOONE COUNTY

Rigs

Williams Coal Co., Pure Oil Co. 202.
Coal River M. Co., Owned B. & M. Co. 21.
Coal River M. Co., tract B, Owned B. & M. Co. 4.
Cassingham & Co., Owned B. & M. Co. 3.
Perry, Owned B. & M. Co. 1.
Smoot, Owned B. & M. Co.

Wells Drilling

L. R. & P., Pure Oil Co. 24.
L. R. & P., tract B, Pure Oil Co. 13.
Coal River M. Co., Owned B. & M. Co. 21.
Prior-Allen, Owens B. & M. Co. 3.
Cassingham & Co., Owned B. & M. Co. 4.

RALIEGH COUNTY

Rig

Rowland Co., Fisher Oil Co. 4.
Neighbert estate, Public Gas Corp. 3.

MINGO COUNTY

Wells Drilling

Logan Cannel Coal Co., Public Gas Corp. 13.

NICHOLAS COUNTY

Well Drilling

Unknown, Hamilton Gas Co. 6.
Rigs, 61; wells drilling, 127; total, 188.

CENTRAL OHIO

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Tvl.
Knox	3	5	1	1	2	2	4
Ashland	6	0	1	5	6	8	14
Medina	6	10	3	2	9	10	19
Lorain	2	0	2	0	2	2	4
Wayne	10	57	3	3	6	22	28
Richland	5	0	0	5	0	6	6
Hocking	1	0	0	1	0	1	1
Vinton	0	0	0	0	7	24	31
Holmes	7	75	3	4	0	1	1
Coshocton	1	4	0	1	1	4	5
Jackson	4	0	0	4	3	11	14
Athens	1	0	1	0	2	1	3
Meigs	0	0	0	0	0	1	1
Cuyahoga	0	0	0	0	1	0	1
Summitt	3	0	2	1	1	0	1
Total Sept...	55	151	16	31	40	96	136
Total Aug. ..	60	214	14	32	39	95	134
Difference ..	5	63	2	7	1	1	2

KNOX COUNTY

Wells Completed

Jefferson—Wm. Bailes, East Ohio Gas 2 dry

Brown—J. & S. Haire, Upham Gas 5... gas
Jackson—Fred Veatch, Cline Bros. 2.. 5

Wells completed..... 3
Production 5
Dry 1
Gas .....

ASHLAND COUNTY
Wells Completed

Hanover—J. L. Sellers, Ohio Fuel Gas 1 gas
Vermillion—C. E. Ritchie, Logan Gas 1 dry
Mohican—G. W. Black, Logan Gas 1.. gas
Orange—Eliza McBride, Logan Gas 1.. gas
Greene—Martha Bower, Logan Gas 1. gas

Wells completed..... 6
Dry 1
Production 0
Gas 5

MEDINA COUNTY
Wells Completed

Litchfield—F. W. Anderson, J. F. Hagan & Co. 5 ..... dry
Frank Walters, Logan Gas 2..... gas
John Knaph, East Ohio Gas 1..... dry
Westfield—Jane Smith, Logan Gas 1.. gas
York—Geo. Acker, Ohio Fuel Gas 5.... 10
Guilford—E. G. Kuhn, Central Ohio Gas 1..... dry

Wells completed..... 6
Production 10
Dry 3
Gas 2

LORAIN COUNTY
Wells Completed

Grafton—C. C. Schwartz, Ohio Fuel Gas 1 ..... dry
Wm. Stelzer, Burton-Morgan-Stephens 1..... dry

Wells completed..... 2
Production 0
Dry 2
Gas 0

WAYNE COUNTY
Wells Completed

Wooster—Frank Miller, Ohio Oil 1..... 20
Weldless Tube, Earl Strock 2..... dry
Cannan—T. A. Armstrong, Logan Gas 3 dry
I. N. Hawks, Logan Gas 1..... dry
L. E. Wiles, Logan Gas 2..... gas
Wm. S. Smith, Ohio Fuel Gas 2..... 10
J. B. Bowers, Ohio Fuel Gas 2..... 12
S. J. Hartsler, Ohio Fuel Gas 1..... 15
S. Whonsettler, Daugherty Bros. 1... gas
Edward Miller, Arthur & Mills 1.... gas

Wells completed..... 19
Production 57
Dry 3
Gas 3

RICHLAND COUNTY
Case—Noss, Finney & Co. 1..... gas
Lloyd Noble, Bricker Bros. 3..... gas
Black, Bricker Bros. 2..... gas
H. S. Maring, Erones & Hart 7..... gas
R. Swanger, C. E. Ozier & Co. 1.... gas

Wells completed..... 5
Production 0
Dry 0
Gas 5

HOCKING COUNTY
Wells Completed

Benton—Woodward & Lytle, Logan Gas 1..... gas

HOLMES COUNTY
Wells Completed

Monroe—Oscar Korns, Central Ohio Gas 3..... gas
E. E. Cannon, Central Ohio Gas 1.. gas
John Schwiser, Central Ohio Gas 1.. dry
Wm. A. Smith, East Ohio Gas 2.... gas
Chr. Johnson, East Ohio Gas 3..... dry
Hardy—J. R. Forgery, East Ohio Gas 3 75
Wm. Watts, Central Ohio Gas 1..... dry

Wells completed..... 7
Production 75
Dry 3
Gas 3

COSHOCTON COUNTY
Newcastle—J. W. Frazier, Logan Gas 1 gas

JACKSON COUNTY
Wells Completed

Washington—Gates-Chenoweth, Ohio Fuel Gas 1..... gas
Coal—Charles Dickerson, Ohio Fuel Supply 1..... gas
Franklin—Wm. Steele, Ohio Fuel Supply 3..... gas
T. J. Deering, Ohio Fuel Supply 1... gas

Wells completed..... 4
Production 0
Dry 0
Gas 4

ATHENS COUNTY
Wells Completed

Carthage—M. Kinnon, Logan Gas 1.... gas
F. W. Chapman, Shady River Oil & Gas 9..... dry
J. E. Bailey, Jay Oil & Gas 6..... gas
Thos. Bond, Ohio Fuel Supply 2..... gas
Lodi—J. G. Hull, Immel Bros. 1..... gas
Rome—G. S. Parker, Stephens & Yowman 1..... gas
W. B. Rice, Rice Oil & Gas 3..... gas

Wells completed..... 7
Production 0
Dry 1
Gas 6

SUMMITT COUNTY
Wells Completed

Richfield—S. Feasley, East Ohio Gas 1 gas
E. B. Alger, East Ohio Gas 1..... dry
E. M. Merton, Hulse & Koontz 1..... dry

Wells completed..... 3
Production 0
Dry 2
Gas 1

KNOX COUNTY
Rigs

Jefferson—J. D. Greer, East Ohio Gas 1.
Henry Lower, East Ohio Gas 1.
Wells Drilling

Jefferson—S. J. Cross, East Ohio Gas 1.
Brown—John Nihart, East Ohio Gas 2.
Rigs, 2; wells drilling, 2; total, 4.

ASHLAND COUNTY
Rigs

Hanover—George Carnegy, Logan Gas 2.
Perry Black, Logan Gas 2.
Emanuel Kick, East Ohio Gas 2.
Orange—John J. Brown, Logan Gas 1.
Dora Richards, Logan Gas 1.
Greene—Madison Teeters, Ohio Fuel Gas 1.
Wells Drilling

Hanover—Howard Bockman, Logan Gas 1.
Fred Feichter, Logan Gas 3.
Vermillion—Clara Endinger, W. E. Hawk & Co. 1.
Orange—Jacob Singer, Logan Gas 1.
J. P. Calhoun, Logan Gas 1.
Wm. Monteith, Logan Gas 7.
Greene—Lewis Beck, Logan Gas 1.
Clara McMillan, Logan Gas 1.
Rigs, 6; wells drilling, 8; total, 14.

MEDINA COUNTY
Rigs

Harrisville—Henry Carman, Ohio Fuel Gas 1.
Litchfield—Frank Burrer, East Ohio Gas 1.
Lafayette—Medina Infirmary, Logan Gas 4.
J. H. McCleary, Logan Gas 1.
Hipolite Karas, Logan Gas 1.
Westfield—T. J. Logandort, Logan Gas 1.
Wm. S. Schultz, Logan Gas 1.
York—W. H. Dedrick, Dempsey & McGrath 2.
E. M. Brintnall, Logan Gas 2.
Wells Drilling

Harrisville—Agie E. Daniels, Ohio Fuel Gas 1.
Litchfied—George E. Kennedy, Logan Gas 1.
Frank Cinco, Hulse & Koontz 5.
York—W. C. Stillwater, East Ohio Gas 1.
H. G. Wolf, Logan Gas 1.
George F. Gunkleman, Logan Gas 2.
Elizabeth Mayer, Ohio Fuel Gas 1.
Montville—G. W. Roshon, Ohio Fuel Gas 1.
Guilford—J. & M. Winkler, Central Ohio Gas 1.
Brunswick—D. T. Tillotson, Central Ohio Gas 1.
Rigs, 9; wells drilling, 10; total, 19.

LORAIN COUNTY
Rigs

Grafton—Robert Nesbit, East Ohio Gas 1.
Leland Wise, Ohio Fuel Gas 1.
Wells Drilling

Grafton—Fred Klinerst, Logan Gas 1.
Columbia—G. & J. Herold, Wiser Oil 1.
Rigs, 2; wells drilling, 2; total, 4.

WAYNE COUNTY
Rigs

Wooster—L. I. Buchanan, Ohio Oil 1.
Milton—Elmer Steiner, Logan Gas 1.
Plain—W. M. Gill, Logan Gas 3.
Cannan—W. Shoemaker, Central Ohio Gas 1.
M. S. Shoemaker, Central Ohio Gas 1.
W. S. Smith, Ohio Fuel Gas 3.
Wells Drilling

Wooster—Lee & Maud Martin, Ohio Oil 1.
Chippewa—Wm. Bittner, East Ohio Gas 1.
A. E. Steiner, East Ohio Gas 1.
Milton—A. & C. Schar, East Ohio Gas 1.
Wayne—Charles Pressler, Chio Fuel Gas 2.
J. Wasson, Ohio Fuel Gas 1.
M. V. Caskey, Logan Gas 1.
Plain—J. W. Horn, Logan Gas 2.
Wm. Beard, Logan Gas 1.
E. Ely, Logan Gas 1.
Cannan—V. O. Bowman, Logan Gas 2.
E. G. Clinker, Logan Gas 1.
J. W. Scholl, Logan Gas 2.
S. L. Whonsettler, Ohio Fuel Gas 1.
S. Whonsettler, Ohio Fuel Gas 2, 3.
S. Whetmore, Baker Bros. 2.
E. & G. Myers, Arthur & Mills 3.
L. & G. Rayhill, Hulse & Koontz 2.
Daniel Wiles, Butler Bros. 2.
J. M. Wiles, Creston Gas 3.
R. J. Whonsettler, C. A. Rice & Co. 1.
Rigs, 6; wells drilling, 22; total, 28.

RICHLAND COUNTY
Wells Drilling

Springfield—Hout, Berry & Hout 1.
Monroe—S. M. Douglas, Ohio Fuel Gas 1.
Wells drilling, 2.

HOCKING COUNTY
Wells Drilling

Benton—V. D. Barclay, Ohio Fuel Gas 1.
Jeremiah Illes, Ohio Fuel Gas 1.
John Vorhees, Ohio Fuel Gas 1.
Minnie Allen, Logan Gas 1.
A. B. Lytle, Logan Gas 1.
J. & C. Cain, Logan Gas 2.
Wells drilling, 6.

VINTON COUNTY
Wells Drilling

Clinton—B. F. Wells, Ohio Fuel Gas 1.

HOLMES COUNTY
Rigs

Monroe—Charles Barnes, Ohio Fuel Gas 3, 4.
B. P. & Lena Ohl, Ohio Fuel Gas 1, 3.
McCullough, East Ohio Gas 1.
J. B. Finney, Central Ohio Gas 1.
Washington—W. F. Fulmer, Logan Gas 1.
Wells Drilling

Monroe—Thos. Allison, Central Ohio Gas 1.
S. V. Allison, Central Ohio Gas 1.
U. S. Davenport, Central Ohio Gas 1.
M. F. Bell, Central Ohio Gas 2.
J. H. Lepple, Central Ohio Gas 1.
Oscar Korns, Central Ohio Gas 2.
Charles Barnes, Ohio Fuel Gas 1, 2.
B. P. & Lena Ohl, Ohio Fuel Gas 2.
Oscar Korns, Ohio Fuel Gas 2.
Charles Barnes, Klise-Eckstein-McCann 2, 3.
Charles Shank, East Ohio Gas 1.
M. B. Bird, East Ohio Gas 1.
Milton J. Lowe, East Ohio Gas 2.
Prairie—R. E. Robinson, Ohio Oil 1.
Marquis, Pure Oil 1.
W. F. Kendall, East Ohio Gas 1.
Hardy—Jacob Uhl, East Ohio Gas 3.
H. & C. Sterling, East Ohio Gas 1.
Malissa Gambler, East Ohio Gas 1.
Scott V. Mast, Logan Gas 1.
Sam Franks, Carter Oil 1.
Rigs, 7; wells drilling, 24; total, 31.

COSHOCTON COUNTY
Rigs

Newcastle—Mose Dallere, Logan Gas 1.
Wells Drilling

Newcastle—Mose Dalliers, Logan Gas 1.
Wm. Ringwalt, Logan Gas 2.
Rigs, 1; wells drilling, 2; total, 3.

JACKSON COUNTY
Rigs

Franklin—M. L. Kinnison, Logan Gas 1.
Wells Drilling

Coal—Ed. Townsend, Ohio Fuel Supply 1.
G. W. Roach, Ohio Fuel Supply 1.
Dave D. Evans, Ohio Fuel Supply 1.
Lick—Guy Smales, Ohio Fuel Supply 1.
Rigs, 1; wells drilling, 4; total, 5.

ATHENS COUNTY
Rigs

Carthage—Dana T. Burns, Ohio Fuel Supply 1.
Edward Rowan, Ohio Fuel Supply 1.
Troy—C. H. Ford, Ohio Fuel Supply 1.
Wells Drilling

Carthage—Arthur Cole, Logan Gas 5.
Minnie Allen, Logan Gas 1.
J. W. Kincaid, Logan Gas 2.
N. Kinnon, Logan Gas 2.
Charles Day, Ohio Fuel Supply 1.
Jacob Varner, McBride & Co. 1.
Waterloo—S. J. Lowery, Logan Gas 1.
Rome—Anthony McGraw, Logan Gas 1.
Thos. McGraw, Pittsburgh Gas 1.
J. C. Prent, H. W. Leeper & Co. 1.
G. S. Parker, Stephens & Yowman 2.
Rigs, 3; wells drilling, 11; total, 14.

MEIGS COUNTY
Rigs

Sutton—Robt. Crow, Ohio Fuel Supply 1.
M. L. Easterday, Ohio Fuel Supply 1.
Wells Drilling

Sutton—C. W. Cornell, Ohio Fuel Supply 1.
Rigs, 2; wells drilling, 1; total, 3.

CUYAHOGA COUNTY
Wells Drilling

Strongville—C. W. Stelzer, East Ohio Gas 1.

SUMMITT COUNTY
Rigs

Richfield—E. M. Merton, East Ohio Gas 2.

LIMA FIELD

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wood	8	97	0	0	2	17	19
Hancock	7	143	0	0	1	6	7
Allen	4	27	0	0	0	0	0
Auglaize	1	0	1	0	0	4	4
Sandusky	1	3	0	0	0	1	1
Mercer	4	34	1	0	3	7	10
Van Wert	5	114	1	0	0	4	4
Seneca	1	40	0	0	0	0	0
Lucas	0	0	0	0	0	1	1
Ottawa	5	64	0	0	0	4	4
Darke	2	24	0	0	0	1	1
Shelby	2	40	0	0	0	5	5
Paulding	4	72	0	0	3	8	11
Hardin	1	0	0	1	0	2	2
Crawford	1	0	1	0	0	1	1
Michigan	0	0	0	0	0	2	2
Total Sept...	46	658	4	1	9	62	72
Total Aug...	68	1,040	4	1	5	73	78
Difference ..	22	382	0	0	4	10	6

WOOD COUNTY
Wells Completed

Montgomery—Geo. Blessing, Winchell Oil & Gas Co. 2..... abd
Freedom—H. & J. C. Bruning, Ohio Oil 23 5
A. F. Stein, Paragon Ref. 12..... abd
Plain—Joe Lane, Bert Ladd 1..... 8
Middleton—A. J. Ovitt, Wm. M. Stitt 11 5
Liberty—S. F. Hodgman, W. E. Donnelly 3..... 60
C. T. Lee, Scheidt, Hamann & Huston 1 1
G. W. Chaney, Vaniue Oil 1..... abd
D. J. Corey, Chio Oil 21..... abd
Lake—E. Brendt, Chas. F. Zeising & Co. 5..... 10
H. Bahnsen, R. G. Bowe & Co. 2..... 5
Perrysburg—Moore, Onsel Bros. Drg. 1 3

Wells completed..... 8
Production 97
Abandoned 4
Dry 0
Gas 0

HANCOCK COUNTY
Wells Drilling

Allen—Mehlon Decker, Ohio Oil 30.... 8
H. G. Overholt, Overholt Oil 1..... 5
Eagle—Lem Aurand, Porter & Hovis 14. 50
Levi Gorby, Dave Kirk Jr. & Co. 6.. 30
N. Powell, B. Porter & Co. 8..... 20
Union—J. A. Rogers, Ohio Oil 2..... 18
J. A. Rogers No. 1, Ohio Oil 1, 2.... abd
H. P. Smith, Fuller & Co. 14..... 12

Wells completed 7
Production 143
Dry 0
Gas 0
Abandoned 2

ALLEN COUNTY
Wells Completed

Bath—E. W. Prewant, C. A. Peavey & Co. 6..... 2
Amanda—John Egts, W. O. Huntley 3 3
Angeline Handle, W. O. Huntley 1... 3
Perry—H. Hefner, D. L. Thompson 5.. 14

Wells completed..... 4
Production 27
Dry 0
Gas 0

AUGLAIZE COUNTY
Wells Completed

Noble—Nat. Fogt, P. Davidson & Co. 1 dry

SANDUSKY COUNTY
Wells Completed

Woodville—F. L. Mountler, Mountler Bros. 8..... 3
Scott—Emma Benton, Sherman & Hawes 11..... abd
Washington—Mike Shade, Shade & Shade 1..... abd
W. Brockseeker, Zorn-Hornung Co. 3, 5 ..... abd

Wells completed..... 1
Production 3
Abandoned 4
Dry 0
Abandoned 4

MERCER COUNTY
Wells Completed

Gibson—G. Breymier, Logan Oil 3..... 2
Jas. Schmidt, E. G. & James Henderson 1..... 17
Butler—A. Able, Difenbaugh & Co. 3.. 15
Dublin—M. Hays, Fort Wayne Indiana Oil 1 ..... dry

Wells completed..... 4
Production 34
Dry 1
Gas 0

VAN WERT COUNTY
Wells Completed

Jennings—W. C. Sheley, Stanley Oil 2 20
Ridge—J. E. Moore, Calvin Neely 1.... 4
York—S. M. Jones, Stelzer & McClure 1 dry
Harrison—S. E. German, Bolyard, Barnett & Co. 1..... 40
Pleasants—M. H. Hofman, American Engineering 1..... 50

Wells completed..... 5
Production 114
Dry 1
Gas 0

SENECA COUNTY
Wells Completed

Clinton—F. E. Baldwin, Arthur Geyer & Co. 2..... 40

OTTAWA COUNTY
Wells Completed

Harris—J. D. Smith, Gust Magsig & Son 5 15
Mrs. Sarah Netcher, River Oil 3..... 10
W. V. Schott, Zorn-Hornung Oil 8... 15
E. H. Yeasting, Zorn-Hornung Oil 10 8
O. L. Luckey, O. L. Luckey 3..... 16

Wells completed..... 5
Production 64
Dry 0
Gas 0

DARKE COUNTY
Wells Completed

Wayne—Julia Wartin, Lee A. Watson 1 4
Allen—J. T. Patton, Mondarke O. & G. 1 20

Wells completed..... 2
Product.on 24
Dry 0
Gas 0

SHELBY COUNTY
Wells Completed

Cynthian—Ellerman, Ellerman Oil 3... 15
C. Broerman, Harmon, Lyons, & Co. 3 25

Wells completed..... 4
Production 40
Dry 0
Gas 0

PAULDING COUNTY
Wells Completed

Benton—Brady Bros. J. W. McIntosh 1 12
Jacob King, Harmon & Cramer 1.... 30
Harrison—J. M. Bailey, U. S. A. Oil 1 15
Brown—E. E. Johnson, Robinson Oil 1 15

Wells completed..... 4
Production 72
Dry 0
Gas 0

HARDIN COUNTY
Wells Completed

McDonel—Flo Carnes, Allie Moore Oil 1 gas

CRAWFORD COUNTY
Wells Completed

Texas—Woster Reidle, The Sun Co. 1.. dry

WOOD COUNTY
Rigs

Middleton—F. H. Speck, Fred H. Speck 4.
Perrysburg—D. Lahey, W. F. Johnson 7.
Wells Drilling

Plain—Pinert-Munn, Paragon Refg. 26.
Harriett Green, B. Perry 1.
Rockwood, E. C. Rockwood 11.
Portage—Joe Trapneil, Ohio Oil 74.
Bloom—Loose-Walbridge, Western Ohio Oil 3.
N. W. Ohio Gas, Ohio Oil 48.
Liberty—Marion S. Wiseley, W. S. Raydure 1.
D. W. Livers, Hulse & Koontz 1.
Middleton—Henry Apel, R. R. Lynch 1.
Lake—Emil Brendt, Chas. F. Zeising & Co. 3.
Ed. Young, Keiser, Brown & Co. 5, 6.
Gideon Laplante, John Patton & Co. 1.
Henry Bahnsen, R. G. Bowe & Co. 3.
Perrysburg—J. P. Birkin, J. P. Birkin 3.
Merlin Speck, Malvern Good 3.
Perry—C. J. Bressler, Dennis Bros. 3.
Rigs, 2; wells drilling, 17; total, 19.

HANCOCK COUNTY
Rigs

Eagle—S. McClelland, B. Porter & Co. 2.
Wells Drilling

Marion—J. G. Oberholzer, Findlay Pet. 14.
Pleasants—Anna Heney, Bath Township Oil 3.
Liberty—George Pifer, Kirk & Bower 1.
Eagle—Isaac Foltz, Star & Clark 9.
Biglick—James Cross, Cole Bros. 1.
Sarah J. King, King & Fletcher 1.
Rigs, 1; wells drilling, 6; total, 7.

AUGLAIZE COUNTY
Wells Drilling

Moulton—Marion Whetstone, Cliff Blair & Co. 3.
Harry Hanold, Cliff Blair & Co. 3.
J. R. Julian, J. R. Kelley 2.
J. M. Myers, Young & Geseicken 1.
Wells drilling, 4.

SANDUSKY COUNTY
Wells Drilling

Woodville—G. Spayde, Ohio Oil 19.

MERCER COUNTY
Rigs

Liberty—Peter Alt, O. C. Fink 2.
Butler—Caroline Neiberling, Courtney Combs 1.
S. Steggleman, Gillespie & Co. 1.
Wells Drilling

Gibson—James Schmidt, E. G. & James Henderson 2.
Liberty—Jac. Bolenbacher, Jr., O. C. Fink 3.
Butler—John Ables, B. T. A. O. & G. 3.
B. Uppencamp, C. Craft 1.
John Dues, R. E. Young 1.
G. McAfee, George Lacknett & Co. 2.
Ben Burkmyer, O. J. McGuigan & Co. 1.
Rigs, 3; wells drilling, 7; total, 10.

VAN WERT COUNTY
Wells Drilling
Jennings—W. C. Shiley Stanley Oil 3.
Ridge—J. E. Moore, Calvin Neely 2.
Harrison—S. E. German, Bolyard, Barnett & Co. 2.
Pleasants—M. H. Hofman, American Engineering 2.

LUCAS COUNTY
Wells Drilling
Monclova—Wm. Black, Swan Creek O. & G. 2.

OTTAWA COUNTY
Wells Drilling
Harris—Mrs. Sarah Netcher, River Oil 4.
O. L. Luckey, O. L. Luckey 4.
Clay—P. W. Redman, R. M. Bell 8.
W. E. Stewart, Gust Magsig & Son 3.
Wells drilling, 4.

DARKE COUNTY
Wells Drilling
Mississinewa—Andy Cox, E. G. Hoffman 1.

SHELBY COUNTY
Wells Drilling
Cynthian—S. Swartz, Ohio Oil 1.
J. Moyer, McClure & Marshall 1.
J. Heischer, Schlagel & Johnson 1.
C. Broerman, Harmon, Lyons & Co. 4.
Turtle—Wagoner, McClure & Marshall 1.
Wells drilling, 5.

PAULDING COUNTY
Rigs
Benton—Wm. King, U. S. A. Oil 3.
Olonzo Thompson, W. J. Wharton & Co. 1.
Paulding—Section 26, Wooster Parties 1.
Wells Drilling
Benton—W. D. Ryle, W. C. H. Oil 2.
John Bachelor, Boston-S. W. Oil & Gas 1.
Chas. Barnard, Smithers & Stevens 1.
Wm. Wood, Robinson & Mandell 1.
Brady Bros., J. W. McIntosh 2.
Harrison—Thos. Lamb, Aetna Drilling 2.
J. A. Ampspaugh, H. T. Odendirk 1.
Brown—E. E. Johnson, Robinson Oil 2.
Rigs, 3; wells drilling, 8; total, 11.

HARDIN COUNTY
Wells Drilling
McDonel—Erwin Hites, Roundhead Oil & Gas 5.
Geo. Greenlee, Cockley Oil 2.
Wells drilling, 2.

CRAWFORD COUNTY
Wells Drilling
Galion—Town Lot, Weed-Hamilton Oil 1.

MICHIGAN
MONROE COUNTY
Wells Drilling
Dundee—Frank Roe, Jackson County O. & G. 1.

JACKSON COUNTY
Wells Drilling
Napoleon—Silvers, Jackson County O. & G. 1.

ILLINOIS FIELD

Summary of Field Operations

	Comp.	Prod.	Dry	Rigs	Drg.	Ttl.
Clark	2	0	2	0	11	11
Cumberland	0	0	0	0	1	1
Crawford	4	9	0	0	3	3
Lawrence	1	1	0	0	2	2
Clinton	1	0	1	0	0	0
Douglas	0	0	0	0	1	1
Edgar	1	0	1	0	0	0
Coles	0	0	0	0	1	1
Wabash	12	578	2	4	7	11
Union	0	0	0	0	1	1
Fayette	0	0	0	1	0	1
Total September	21	588	6	5	27	32
Total August	26	964	4	1	31	32
Difference	5	376	2	4	4	0

CLARK COUNTY
Wells Completed
Parker—H. E. Echard, Gillette & Co. 2 dry
Johnson—Z. E. Brant, Ohio Oil 16 dry

Wells completed 2
Production 0
Dry 2
Gas 0

CRAWFORD COUNTY
Wells Completed
Martin—J. H. Wright, Kewanee Oil & Gas 37 1
J. H. Wright, Kewanee Oil & Gas 38 4
S. Lamb, Karns & Schregongast 6 3
Robinson—W. A. McCarty, S. G. Jessup & Co. 1 1

Wells completed 4
Production 9
Dry 0
Gas 0

LAWRENCE COUNTY
Wells Completed
Bond—W. B. Fitch, Peoples Banking & Trust 3 1

CLINTON COUNTY
Wells Completed
Wade—Maria Smith, Ohio Oil 30 dry
Irishtown—P. Schafer, Southern Gas 1 abd

Wells completed 1
Dry 1
Abandoned 1
Gas 0

EDGAR COUNTY
Wells Completed
Kansas—J. H. Sallee, L. C. Hood & Co. 2 dry

WABASH COUNTY
Wells Completed
Wabash—John Leek, Jos. E. Young, Jr. 1 10
John Leek, Jos. E. Young, Jr. 2 6
W. Cozines, Johnson & Co. 1 dry
Earl Leighty, Arkansas F. O. Co. 1 175
J. W. Mullinex, Arkansas F. O. 1 7
Alice Biehl, Coons Creek Oil 2 140
Price Heirs, Edmondson Oil 2 150
Holson-Dorney, Weidner & Smith 3 75
J. T. Smith, Black Gold Oil 2 dry
Friendsville—S. J. Newsom, Arkansas F. O. & Co. 1 5
B. F. Price, Arkansas F. O. Co. 1 5
J. T. Smith, Arkansas F. O. Co. 1 5

Wells completed 12
Production 578
Dry 2
Gas 0

CLARK COUNTY
Wells Drilling
Parker—C. Hammond, Mumford Oil 10.
H. E. Echard, Gillette & Co. 1, 3.
Casey—R. E. Stratton, Chrysler & Co. 1.
Charles Lowe, R. G. Holmes & Co. 2.
Martinsville—S. M. Brosman, Ohio Oil 14.
Wm. Howard, Trenton Rock Oil 3.
S. W. McClelland, Trenton Rock Oil 7.
John C. Carper, Trenton Rock Oil 11.
Nettie Baker, W. C. McBride, Inc. 3.
Mary J. McClelland, Titus Oil 2.
Wells drilling, 11.

CUMBERLAND COUNTY
Wells Drilling
Sumpter-Dobbs—Brewer, Central Illinois Pet. 1.

CRAWFORD COUNTY
Wells Drilling
Oblong—Ed. Henry, Dinsmore Oil 3.
Martin—D. C. Brubaker, W. W. Splane 9.
Honey Creek—Chas J. Weger, Craig, Lowrie & Co. 16.
Wells drilling, 3.

LAWRENCE COUNTY
Wells Drilling
Lawrence—N. H. Rogers, Silurian Oil 13.
G. L. Dunlay, Duffield & Stewart 10.
Wells drilling, 2.

DOUGLAS COUNTY
Wells Drilling
Sargent—W. E. Brown, Douglas Oil 1.

COLES COUNTY
Wells Drilling
Hutton—Wm. Roach, Colegrove & Co. 18.

WABASH COUNTY
Rigs
Wabash—Geo. Smith, J. F. Tooney & Co. 6.
W. H. Winters, John Whiteside & Co. 1.
J. Stillwell, Sargent & Co. 1.
Compton, Hanley & Co. 1.
Wells Drilling
Wabash—Clara Adams, Wirebaugh & Co. 1
John Leek, Joe S. Young, Jr. 3.
Ed Wright, Timberlake & Co. 1.
Holson-Dorney, Max Oil 2.
Al R. Biehl, Coon Creek Oil 3.
Friendsville—Mathany, Arkansas F. O. & Co. 1.
Rigs, 4; wells drilling, 7; total, 11.

UNION COUNTY
Wells Drilling
Bald Knob—Near Alta Pass, W. MacSmith 1.

FAYETTE COUNTY
Wells Drilling
Pope—John Baxter, McCurdy & Co. 2.

INDIANA FIELD

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wells	1	0	1	0	0	1	1
Jay	4	95	0	0	0	4	4
Adams	0	0	0	0	0	1	1
Grant	1	0	1	0	0	2	2
Delaware	0	0	0	0	0	1	1
Randolph	1	0	1	0	0	0	0
Gibson	0	0	0	0	0	5	5
Pike	2	42	0	0	0	2	2
Sullivan	2	0	1	1	0	3	3
Knox	0	0	0	0	0	1	1
Harrison	0	0	0	0	0	1	1
Laporte	0	0	0	0	0	1	1
Hendricks	0	0	0	0	0	1	1
Total Sept.	11	137	4	1	1	22	23
Total August	9	137	4	0	0	23	23
Difference	2	0	1	1	1	1	0

INDIANA
WELLS COUNTY
Wells Completed
Jackson—S. A. Griffith, Hartford Oil & Gas 1 dry

JAY COUNTY
Wells Completed
Jackson—Tucker, O. A. Tucker 1, 2 abd
Penn—Carl Davenport, American Engineering 1 5
C. C. Harris, American Engineering 1 40
Bear Creek—J. Jeffries, Mesel & Spencer 2 40
J. H. Whiteman, Mesel Bros. 4 10

Wells completed 4
Production 95
Abandoned 2
Dry 0
Gas 0

GRANT COUNTY
Wells Completed
Jefferson—A. A. Moorman, Jacob Wides 5 dry

RANDOLPH COUNTY
Wells Completed
Green—W. Cline, T. O. Tharp 1 dry

PIKE COUNTY
Wells Completed
Logan—A. Atkinson, Good Luck Oil 7 17
John Crecelius, Noble-Bolyard Oil 3 25

Wells completed 2
Production 42
Dry 0
Gas 0

SULLIVAN COUNTY
Jackson—J. Christ, Barnes & Co. 1 dry
Hamilton—F. C. Springer, Fred Bays 4 gas

Wells completed 2
Production 0
Dry 1
Gas 1

WELLS COUNTY
Rigs
Liberty—J. K. Davis, Lewis Oil Corp. 10.

JAY COUNTY
Wells Drilling
Pike—M. M. Mott, Omar Oil & Gas 10.
Penn—C. C. Harris, American Engineering 2.
L. W. Edmondson, American Engineering 1.
Bear Creek—Jas. Jeffries, Mesel & Spencer 3.
Wells drilling, 4.

ADAMS COUNTY
Wells Drilling
Hartford—M. L. Sours, Mason & Co. 2.

GRANT COUNTY
Wells Drilling
Pleasants—Wm. Troyer, Scott & Shesler 2.
Jefferson—A. D. Mittank, Jacob Wides 1.
Wells drilling, 2.

DELAWARE COUNTY
Rigs
Delaware—J. W. Goings, DeSoto Oil Synd. 9.

GIBSON COUNTY
Wells Drilling
Washington—Ira Seifers & Co. 1.
Center—C. W. Welborn, Mann, Huber & Tichenour 2.
Sam Massey, Murphy & Co. 1.
John Gray, Gray & Co. 3.
W. Steiner, Edmons & Co. 2.
Wells drilling, 5.

PIKE COUNTY
Wells Drilling
Logan—J. Crecelius, Noble-Bolyard Oil 4.
A. Atkinson, Good Luck Oil 8.
Wells drilling, 2.

SULLIVAN COUNTY
Wells Drilling
Hamilton—F. C. Springer, Fred Bays 5.
R. Drake, Mansfield & Co. 1.
Turman—Nancy A. Denny, V. S. Welch 7.
Wells drilling, 3.

KNOX COUNTY
Wells Drilling
Harrison—Lulu Proctor, P. C. Andrews & Co. 1.

HARRISON COUNTY
Wells Drilling
Corydon—John Blake, Railroaders Oil 2.

LAPORTE COUNTY
Wells Drilling
Dewey—R. W. Keller, Aetna Drilling 2.

HENDRICKS COUNTY
Wells Drilling
Clay—W. E. Christy, Amo Oil 1.

KENTUCKY-TENNESSEE

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wayne	4	17	0	0	0	4	4
Powell	0	0	0	0	0	1	1
Estill	0	0	0	0	0	2	2
Wolfe	1	2	0	0	0	1	1
Morgan	1	0	1	0	0	0	0
Lee	13	217	0	0	0	10	10
Lawrence-Johnson	18	482	0	0	2	17	19
Johnson-Magoffin	10	51	0	0	0	24	24
Allen	11	130	1	0	0	19	19
Warren	14	172	3	1	6	18	24
Barren	20	137	4	0	0	22	22
Owensboro	16	47	3	0	0	11	11
Cumberland	5	87	2	0	0	18	18
Monroe	3	0	3	0	0	3	3
Russel	0	0	0	0	0	9	9
Adair	0	0	0	0	0	1	1
Simpson	1	6	0	0	1	1	2
Edmonson	0	0	0	0	0	1	1
Metcalf	1	0	1	0	0	2	2
Hopkins	1	10	0	0	0	0	0
Taylor	0	0	0	0	0	1	1
Owsley	1	15	0	0	0	1	1
Breathitt	0	0	0	0	0	1	1
Rowan	0	0	0	0	0	1	1
Laurel	0	0	0	0	0	2	2
Pike	0	0	0	0	0	1	1
Harlan	0	0	0	0	1	0	1
Elliott	4	25	1	0	0	5	5
Bell	0	0	0	0	0	1	1
Floyd	0	0	0	0	1	4	5
Madison	0	0	0	0	0	1	1
Menifee	0	0	0	0	0	1	1
Meade	2	0	1	1	0	0	0
Fleming	0	0	0	0	0	2	2
Green	0	0	0	0	0	1	1
Logan	0	0	0	0	0	3	3
Kentucky	122	1,298	20	2	11	189	200
Tennessee	0	0	0	0	3	14	17
Mississippi	0	0	0	0	6	20	26
Alabama	0	0	0	0	0	11	11
Georgia	0	0	0	0	1	4	5
Total Sept.	122	1,298	20	2	21	238	259
Total Aug.	202	2,644	28	4	17	264	281
Difference	80	1,346	8	2	4	26	22

WAYNE COUNTY
Wells Completed
Monticello—G. W. Saunders, Barr & Griffith 5 7
J. M. Huffaker, Bridgeman Oil 1 2
Eph Hurt, Bell & Criswell 1 2
Florence Koontz, Carter & Bertram 2 6

Wells completed 4
Production 17
Dry 0
Gas 0

WOLFE COUNTY
Wells Completed
Torrent—Spencer Heirs, Kentucky Star Oil 1 2

MORGAN COUNTY
Cannel City—Kendall Heirs, Petroleum Exploration 4 dry

LEE COUNTY
Wells Completed
Beattyville—Gourley-McGuire, Black Gum Oil 5 30
John Mays, Carter Oil 2 5
G. W. Botner, Petroleum Exploration 10 50
L. Brandenburg, Petroleum Exploration 4 5
L. Brandenburg, Petroleum Exploration 5 25
J. & L. Porter, J. L. Upchurch 2 10
Hoster-Treadway, J. L. Upchurch 2 10
Edwards, Hobbs Bros. 1 25
Ben Smith, The Petroleum Co. 3 10
Eliza Brandenburg, The Petroleum Co. 2 10
Eliza Brandenburg, The Petroleum Co. 2 10
John Dunn, The Petroleum Co. 1 5
Geo. Porter, Hupp, Duff & Co. 2 27
Eliza McCollum, Hupp, Duff & Co. 1 5

Wells completed 13
Production 217
Dry 0
Gas 0

LAWRENCE-JOHNSON COUNTIES
Wells Completed
North Weir—Laura Skaggs, Union G. & O. 6 35
L. H. Skaggs, Union G. & O. 8 30
Sanford Lyons, Union G. & O. 22 75
Proctor Lyons, Union G. & O. 6 10
Harrison Bailey, Union G. & O. 5
Proctor Sparks, Union G. & O. 28
Andrew Skaggs, Union G. & O. 17
W. D. Lester, Union G. & O. 2
C. K. Dobyne, Union G. & O. 1
C. K. Dobyne, Union G. & O. 2
Wm. Lester, Union G. & O. 6
L. T. Sparks, Union G. & O. 1
L. T. Sparks, Union G. & O. 2
W. M. Rose, Buckeye Well Drg. 3
J. D. Bond, J. T. Hare & Son 2
Jesse Rose, Indiana-Tex Pet. 6
M. & L. Franklin, George & Toma 4
D. Williams, Fearless O. & G. 3

Wells completed
Production

JOHNSON-MAGOFFIN COUNTIES
Wells Completed
South Weir—Branch Blanton, Mid-South Oil 2
L. M. Kimbleton, Little Paint Oil 1
W. Fulkerson, Orrell & Thompson 1
B. McKenzie, Coast Oil 5
Julia Salyer, Henry Sipple & Co. 1
A. J. Tackett, C. W. Wheeler & Co. 11
W. S. Adams No. 3, Petroleum Exploration 3
W. H. Collins, Petroleum Exploration 5
Mark Bays, Hargus Oil 10
Tillie Conley, R. G. Gillespie 5

Wells completed
Production

ALLEN COUNTY
Scottsville—Williams, Omar O. & G. 1
J. L. French, White Plains O. & G. 6
J. Straight, Cutler & Co. 1
Ayres, H. A. Kiser 15
Dan Brown, Unique Oil 13
Reeves, Unknown 1
F. Dyson, Ruby Cons. Dev. 10
C. C. Stovall, Flopokas O. Corp. 8
W. C. Carver, H. B. Bastrus 3
Bob Wood, Unknown 3
V. R. Hinton, Berry & Co. 2

Wells completed
Production
Dry

WARREN COUNTY
Wells Completed
Bowling Green—Bunscomb, Cunningham & Henry 1
Bryant, Cunningham & Henry 3
Bryant, Ruby Cons. Dev. 6
V. Potter, H. W. Ennis & Co. 2
Butts, Roy Hogan 2
Butts, Roy Hogan 3
C. A. Keller, Westland Oil 24
J. T. Scott, White O. Corp. 10
T. Davenport, T. A. Sheridan 5, 6
H. Carson, Green Star Oil 1
R. H. Gott, Royal Oil 2
Bunch, Toronto Parties 4
Martin, Bryner Oil 6
Ora S. Davenport, Onsel Bros. 3
O. Grimes, Wood Oil 5

Wells completed
Production
Dry
Gas

BARREN COUNTY
Wells Completed
Glasgow—Ritchie, Star Oil 7
Ritchie, Star Oil 9
Childress, Maxey & Kopel 3
Winninger, Carter Oil 8
Wininger, Carter Oil 9
Warder, Elem O. & G. 11
T. Mansfield, Ziegler Bros. 2
T. Mansfield, Ziegler Bros. 3
Mansfield, Houchins Leasehold 7
McCubbin, Fred Moore 5
Bishop, Taylor Bishop 1
L. M. Jackman, J. C. S. Oil Corp. 1
Steffey, J. C. S. Oil Corp. 3
Summers, South St. Paul O. & G. 7
R. Summers, Amos & Bare 1
Creek, W. R. Jackson 2
Mann, J. G. Esslinger 2
Wiggins, Gillespie & Wiggins 5
Kinslow, Baird Oil 3
Taylor, T. L. Gorby 1

Wells completed
Production
Dry
Gas

OWENSBORO DISTRICT
Wells Completed
Owensboro—C. T. Burdette, White & Nicklin 2
R. M. Miller, Panther Creek Oil 5
Barlow 40 acres, Bert Thompson 1
J. L. & A. T. Casey, Ike N. Harkins 4
Oney Ward, C. E. Daugherty 3
J. H. Milligan, Hartman & Young 1
Dave King, Greasey Creek Oil 3
Collis-Higdon, Randolph & Stevenson 1
Reardon, McAdams & Arthur 1
C. W. Bailey, Leeper & Roesner 3

Wells completed
Production
Dry
Gas

CUMBERLAND COUNTY
Wells Completed
Burksville—T. F. Smith, Oil Fork Dev. 1
Logan, E. N. Ahlfeldt 2
M. C. Scott, Vedder Oil 1
Renis, Wilcox Bros. 2
S. Schickle, Wilcox Bros. 2

Wells completed
Production
Dry
Gas

MONROE COUNTY
Wells Completed
Tompkinsville—Kidwell, Fred Honagen 1
Embretch, H. A. Kiser 1
Ross, Unknown 1

Wells completed
Production
Dry
Gas

SIMPSON COUNTY
Wells Completed
Franklin—Holland, Brockmier & Co 1

METCALF COUNTY
Wells Completed
Edmonton—F. Clark, Portland Parties 1 dry
HOPKINS COUNTY
Wells Completed
Madisonville—Williams. Copper-Flash Oil 6..... 10
OWSLEY COUNTY
Wells Completed
Boonville—Judd, Combs Bros. Dev. 1.. 15
ELLIOTT COUNTY
Sandy Hook—R. Mason, C. J. Sipple & Co. 1..... dry
J. F. Diles, Wheeler & Campbell 2... 12
Ves Peters, Sandy River Oil 3..... 12
Ves Peters, Sandy River Oil 4..... 1
Wells completed..... 4
Production 25
Dry 1
Gas 0
MEADE COUNTY
Wells Completed
Brandenberg—Rhodes, Louisville G & Elec. 1..... gas
Payne, Louisville G. & Elec. 1..... dry
Wells completed..... 2
Production 0
Dry 1
Gas 1
MISSISSIPPI
WAYNE COUNTY
Wells Drilling
Monticello—Ira Guffey, C. E. Daugherty & Co. 2.
W. F. Hicks, Geo. A. Hook & Co. 1.
J. Bobbit, Meredith & Co. 1.
Bell Heirs, Wetzel & Bell 1.
Wells drilling, 4.
POWELL COUNTY
Wells Drilling
Slade—W. D. Curtis, Knight & Biemer 1.
ESTILL COUNTY
Wells Drilling
Irvine—Sam Miller, Smith, Clark & Co. 2.
Millard Ballard. T. A. Gleason, Trus. 5.
Wells drilling, 2.
WOLFE COUNTY
Wells Drilling
Torrent—E. B. Roberts, Federal O. Corp. 3.
LEE COUNTY
Wells Drilling
Beattyville—Huntington, Huntington Oil Syndicate 3.
J. D. Smythe, Superior O. Corp. 23.
Medley S. Cole, R. M. Smythe & Co. 5.
Denuise, Denuise & Co. 1.
Adaline Porter, Hupp, Duff & Co. 4.
George Porter, Hupp, Duff & Co. 3.
Evans, Petroleum Exploration 1.
Hag Rowland, Petroleum Exploration 2.
Spencer Flannery, Petroleum Exploration 8, 9.
Wells drilling, 10.
LAWRENCE-JOHNSON COUNTIES
Rigs
North Weir—J. J. Gambill, Union Gas & Oil 34.
Martha Kelley, Union Gas & Oil 12.
Wells Drilling
North Weir—D. H. Ferguson, Union Gas & Oil 5.
P. P. Holbrook, Union Gas & Oil 28.
R. N. Sparks, Union Gas & Oil 1.
M. E. Sparks, Union Gas & Oil 9.
C. K. Dobyne, Union Gas & Oil 3.
L. Sparks, Union Gas & Oil 3.
J. J. Skaggs, Cumberland Pet. 3.
W. M. Boggs, Union Gas & Oil 8.
W. H. Kelley, Mid-South Oil 2.
Wayne Moore, Tom Hays 1.
Milt Williams, Central Kentucky Gas 4.
C. Osborne, Skaggs, Miller & Co. 1.
S. C. Skaggs, Figley, Day & Co. 5.
S. Q. Kelley, Fred Stone & Co. 1.
Nora Lemaster, J. N. Meek Trustee 3.
J. Lyons, Keaton Oil & Gas 29.
Ira Lester, Fred Stone & Co. 6.
Rigs, 2; wells drilling, 17; total, 19.
JOHNSON-MAGOFFIN COUNTIES
Wells Drilling
Paintsville—J. T. Patrick, Burning Fork Oil Syndicate 8.
R. L. Salyer, Burning Fork Oil Synd. 5.
J. H. Arnett, Bed Rock Oil 15.
H. H. May, Short Fork Oil 6.
Frank Conley, Atlantic O. Prod. 15.
Sam Blanton, R. G. Gillespie 19, 20, 21, 22.
Tollie Conley, R. G. Gillespie 6.
J. D. Moore, R. G. Gillespie 3.
S. Howard, Mid-South Oil 5.
Sam Blanton, Mid-South Oil 6.
G. H. Gardner, New Domain O. & G. 8.
W. E. Coffey, Superior O. Corp. 2.
J. F. Conley, Cumberland Pet. 5.
Sam Collins, Cumberland Pet. 10.
W. M. Frater, Structure Oil 9.
T. J. Powers, Clyde Oil 2.
Julia Salyer, Magoffin Dev. Synd. 2.
C. C. Meade, C. C. Meade & Co. 1.
F. M. Tackett, Wheeler & Co. 1.
Cleveland Salyer, Bed Rock Oil 2.
Jesse Borders, Cooper & Sublet 6.
Wells drilling, 24.
ALLEN COUNTY
Wells Drilling
Scottsville—R. H. Good, C. R. Borah 9.
Susan Moore, Pelican Oil 18.
Frank Martin, Dickson & Sledge 5.
Bert Hinton, Frank Seaton 3.
L. D. Robinson, L. D. Robinson 17.
B. Stamps, Lewis O. Corp. 14.
J. E. Meredith, C. K. Boller 1, 2.
Lee Moore, Lee Moore 1.
R. S. Welch, Ross Work 1.
Dodson, Pearson & Co. 2.
V. R. Hinton, Berry & Co. 3.
Levi Hinton, Pennsylvania Parties 5.
Alderson, Jim Lee 1.
I. Hinton, Free Lance Oil 6.
R. T. Williams, F. J. Chipman 4.
Lyle, Bastrus & Barton Bros. 3.
Carver, Bastrus, Johnson & Miller 4.
Pepper, Andrus & Millet 1.
Wells drilling 19.
WARREN COUNTY
Rigs
Bowling Green—Gillespie, H. Z. Clark 5.
Vance, Illinois-Kentucky Oil 6.
G. Rigglewood, H. J. Dobson 4.
Grider-Gardner, Ohio Fuel Oil 2.
O. Grimes, Wood Oil 6.
J. Isabell, Wood Oil 14.
Wells Drilling
Bowling Green—Price-Hall, Ruby Cons. Dev. 5.
Smith Bros. D. T. Bolling 1.
Duncan Western Engineering Dev. 3.
Kuykendall, A. Allen & Co. 3.
T. Davenport, T. A. Sheridan 4, 7, 8, 9.
Young, Makeever Bros. 12.
Smith, H. V. Taylor 8.
Morehead, Lucille O. Synd. 5.
McLemore, Olive Green Oil 8.
Biddle, Cadet Oil & Gas 22.
Cox, George Stewart 19.
Fort, Roy Hogan 1.
Bryant, Cunningham & Henry 4.
S. T. Pearson, Dixon & Co. 8.
Reynolds, DaFoe & Co. 5.
Rigs, 6; wells drilling, 18; total, 24.
BARREN COUNTY
Wells Drilling
Glasgow—Free, Star Oil 3.
Beard, T. L. Gorby 2.
Taylor, T. L. Gorby 2, 3.
Lessenberry, T. L. Gorby 1.
Saunders, Lew J. Emery, Jr. Sons 1.
Davidson, Lew J. Emery Jr. Sons 1.
Ritter Bros. Stafford & Maxey 2.
Winn, Callahan & Winn 2.
Duff, Norris Bros. 2.
I. N. Mansfield, Houchins Leasehold 8.
Mack Mansfield, J. G. Esslinger 1.
Wininger, Carter Oil 10, 11.
Goodwin, Carter Oil 2.
Jones, Baird Oil 1.
Scott, Gillespie & Wiggins 6.
G. L. Jackman, J. C. S. Oil Corp. 1.
Howard, Fred Moore 4.
Jackman, Rice & George 1.
Bishop, Taylor Bishop 2.
Taylor Mansfield, Ziegler Bros. 4.
Wells drilling, 22.
OWENSBORO DISTRICT
Wells Drilling
Owensboro—James Powers, New Domain O. & G. 1.
Harrison 42 Acres, Wood Oil 1.
Ves Haynes, Nutty & Pyle 1.
F. B. Miller, C. E. Daugherty 1.
G. M. Burdette, C. E. Daugherty 1.
R. Miller, Panther Creek Oil 9.
S. V. Flower, O. C. Boop 2.
J. L. & A. T. Casey, Ike N. Harkless 5.
Lowe Helm, C. A. Leeper 1.
Anna Stewart, C. A. Leeper 10.
Gunther, Palmer O. Synd. 1.
Wells drilling, 11.
CUMBERLAND COUNTY
Wells Drilling
Burksville—Kerr, McClintock & Co. 7.
M. Scott, Coe & Co. 1.
K. Crawford, Dayton Oil Synd. 4.
Coffee, Young Oil 2, 3.
Rush, Wabash Valley O. & G. 1.
Mrs. Koop, Kanawha Oil 1.
Gilbert, Grant, Curtis & Co. 1.
Doll Bolles, Vedder Oil 1.
Widow Fletcher, Robt. Stead 1.
Parrish, Mason & Co. 1.
J. A. Graves, McIntyre & Co. 1.
W. Anderson, W. S. Raydure & Co. 1.
Cary, W. S. Raydure & Co. 1.
Huddleston-Payne, Carter & Combest 2, 3.
J. B. Hume, Judio Dev. 5.
Logan, E. N. Ahlfeldt 3.
Wells drilling, 18.
MONROE COUNTY
Wells Drilling
Tompkinsville—J. B. Chappell, W. G. Bowles 1.
Vance, C. E. Dice 1.
Ferguson, Unknown 1.
Wells drilling, 3.
RUSSELL COUNTY
Wells Drilling
Creelsboro—W. C. Dalton, Carnahan Oil 3.
F. Garner, Carnahan Oil 1.
L. D. Potts, R. F. Logan 1.
E. Mann, J. G. Elmitt 2.
F. M. Flatt, J. G. Elmitt 1.
Mrs. Coffee, Armstrong & Co. 3.
Ed Campbell, Armstrong & Co. 3.
A. O. Lay, Redman & Co. 1.
Nellie Bledson, Creelsboro Parties 1.
Wells drilling, 9.
ADAIR COUNTY
Wells Drilling
Columbia—Smith, Bartow-Florida, Interest 2.
SIMPSON COUNTY
Rigs
Franklin—Summers, E. M. Treat & Co. 13.
Wells Drilling
Franklin—Smith, W. H. Martin 1.
Rigs, 1; wells drilling, 1; total, 2.
EDMONSON COUNTY
Wells Drilling
Brownsville—W. T. Butram, J. C. S. Oil Corp. 1.
METCALF COUNTY
Wells Drilling
Edmonton—Near Edmonton, J. C. Richards 1.
A. J. Thompson, T. Petty & Co. 1.
Wells drilling, 2.
TAYLOR COUNTY
Wells Drilling
Campbellsville—Near Maple, Wood Oil 1.
OWSLEY COUNTY
Wells Drilling
Boonville—Elmer Evans, Combs Bros. Dev 4.
BREATHITT COUNTY
Wells Drilling
Jackson—H. Hurst, Petroleum Exploration 4
ROWAN COUNTY
Wells Drilling
Morehead—Craney Creek, Patton O. & G. 1.
LAUREL COUNTY
Wells Drilling
London—Bernstadt, Common O. & G. 1.
Mrs. L. Hubbard, Piney O. & G. 1.
Wells drilling, 2.
PIKE COUNTY
Wells Drilling
Pikesville—Pond Creek Coal, A. J. Dalton & Co. 1.
HARLAN COUNTY
Rigs
Harlin—Cawood, Rex G. Carpenter 1.
ELLIOTT COUNTY
Wells Drilling
Sandy Hook—Wagner, Superior Oil Corp. 1.
G. W. Kapples, T. J. Evans 2.
G. W. Kelley, McConnell & Co. 1.
Ves Peters, Sandy River Oil 5.
J. F. Diles, Wheeler & Campbell 3.
Wells drilling, 5.
BELL COUNTY
Wells Drilling
Middlesboro—Canada Mt., Canada Peak Oil 1.
FLOYD COUNTY
Rigs
Hueyville—C. D. Patrick, Carter Oil 1.
Wells Drilling
Hueyville—Kentucky River Coal, Brown & Harmon 1.
S. C. Allen, Eastern Carbon Black 7.
C. E. Allen, Eastern Carbon Black 1.
J. Webb, Tom Demis, Trustee 3.
Rigs, 1; wells drilling, 4; total, 5.
MADISON COUNTY
Wells Drilling
Boonsboro Beach—D. J. Williams, J. N. Thompson & Co. 1.
MENIFEE COUNTY
Wells Drilling
Frenchburg—Gilbert Bushford, W. O. Beck & Co. 1.
FLEMING COUNTY
Wells Drilling
Fleminsburg—Near Grange City, Hawkins & Co. 1.
Near Grange City, Dr. Connelly 1.
Wells drilling, 2.
GREEN COUNTY
Wells Drilling
Greensburg—Waller, Wood Oil 1.
LOGAN COUNTY
Wells Drilling
Russelville—Walters 100 Acres, Johnson & Co. 1.
Walters S. W. 50 Acres, Stewart & Co. 1

Classified Wants

Pages 102-103

Walter W 50 Acres, Foster & Co. 1.
Wells drilling, 3.
TENNESSEE
CLAY COUNTY
Wells Drilling
Celina—Patterson, Souls & Co. 3.
Greenwood, Souls & Co. 2.
Stanford, Dixon & Co. 2.
Short, Powell Oil 4.
Stover, Alexander & Co. 2.
Unknown, Spain & Co. 2.
Wells drilling, 6.
JACKSON COUNTY
Wells Drilling
Jackson—Howard, Continental Oil 2.
GIBSON COUNTY
Wells Drilling
Dyer—Unknown, Dyer O. & G. 1.
HARDEMAN COUNTY
Wells Drilling
Bolivar—Brown Sans, Spring Valley Oil & Gas 1.
FAYETTE COUNTY
Rigs
Sommerville—Perry, Strickland & Co. 1.
SHELBY COUNTY
Wells Drilling
Arlington—Garrett, Arlington Oil & Gas 2.
BENTON COUNTY
Rigs
Near Camden—Unknown 1.
Wells Drilling
Near Eva—Clarksville O. & G. 1.
Rigs, 1; wells drilling, 1; total, 2.
HAMILTON COUNTY
Rigs
Chattanooga—Near Daisy, Dryden & Co. 1.
MURRAY COUNTY
Wells Drilling
Hampshire—McClanahan, Doctor Doran 1.
RHEA COUNTY
Wells Drilling
Dayton—Unknown 2.
DAVIDSON COUNTY
Wells Drilling
Nashville—Stevens, Oliver & Lindsay 1.
MISSISSIPPI
CHICKASAW COUNTY
Wells Drilling
Houston—Flairty, Danner Gas & Oil Trust 2.
CLAY COUNTY
Rigs
West Point—Gulf Development 1.
PIKE COUNTY
Rigs
Magnolia—Poorhouse, Mississippi Exploration 2.
UNION COUNTY
Rigs
Wallersville—Sappington, Minyard Wells 1.
Wells Drilling
Wallersville—Woodson, Minyard Wells 1.
FRANKLIN COUNTY
Wells Drilling
Jackson—McCabe, Fletchering & Co. 1.
COPIAH COUNTY
Wells Drilling
Sec. 6-2-1—Didlake, Marshall Oil 1.
Sec. 23-1-3—White, B. H. White 2.
Wells drilling, 2.
HINDS COUNTY
Wells Drilling
Elton—Jackson Oil 2.
JEFFERSON COUNTY
Wells Drilling
Truly—Truly, Manhattan-Tex. Pet. 2.
JACKSON COUNTY
Wells Drilling
Pascagolla—Near Utica, Jackson Oil 1.
LAFAYETTE COUNTY
Wells Drilling
Oxford—Section 27-11-4, Banks, Kinsey & Co. 1.
LOWNDES COUNTY
Wells Drilling
Section 12-8-1, Near Artesia—Billups, Anderson Drilling 1.
LINCOLN COUNTY
Wells Drilling
Near Hartman—Anderson Drilling 1.
WASHINGTON COUNTY
Wells Drilling
Williams—Alhambra Oil & Gas 3.
ITAWAMBA COUNTY
Wells Drilling
Sec. 7-10-9e—Summers, Stenum & Co. 1.
CALHOUN COUNTY
Rigs
Calhoun City—Gregory, Northeast O. & G. 1.
LEAKE COUNTY
Wells Drilling
Carthage—Near Conway, Charles B. Stoll 1.
MADISON COUNTY
Wells Drilling
Section 7-10-4—Madison Oil & Gas 1.
GRANADA COUNTY
Wells Drilling
Granada—Borden & Co. 1.
CLAIBORNE COUNTY
Rigs
Port Gibson—Young, Mississippi Ecpler 1.
HOLMES COUNTY
Rigs
Sec. 18-13-1—Near Coxburgh, Free Run Oil 1.
PANOLA COUNTY
Wells Drilling
Sec. 35-37-2—Kilhni, Courtland O. & G. 1.
PERRY COUNTY
Wells Drilling
Richton—Donald, Donald Oil 1.
RANKINS COUNTY
Wells Drilling
Sec. 7-3-4—Finbone Oil 1.
SCOTT COUNTY
Wells Drilling
Sec. 21-6-3—Graham, Mississippi O. & G. Synd. 1.
ALABAMA
MORGAN COUNTY
Wells Drilling
Sec. 6-6-1—English, Albany-Decatur Oil 1.
BALDWIN COUNTY
Wells Drilling
Sec. 21-2-3—Evans, Stoll & Co. 1.
SUMTER COUNTY
Wells Drilling
Cartopa—Sam W. Kendall 1.
HALE COUNTY
Wells Drilling
Greensborough—Hale Oil 1.
SHELBY COUNTY
Wells Drilling
Chelsea—Scott, Cooksey Oil 1.
WILCOX COUNTY
Wells Drilling
Selma—Blue Bell Oil 1.
CLARK COUNTY
Wells Drilling
Sec. 35-8-1—Orgus, Keoughan Oil 1.
Columbia—Inter Coastal Oil 1.
Wells drilling, 2.
MADISON COUNTY
Wells Drilling
Huntsville—T. H. Mahoney 1.
COLBERT COUNTY
Wells Drilling
Sheffield—Ligon, Spring Valley O. & G. 1.
LAWRENCE COUNTY
Wells Drilling
Near Moulton—Tulsa Parties 1.
GEORGIA
PULASKI COUNTY
Rigs
Hawkensville—Florida-Georgia Cons. Oil 1.
JEFF DAVIS COUNTY
Wells Drilling
Hazelhurst—Mid-Georgia Oil & Gas 1.
TELFAIR COUNTY
Wells Drilling
Scotland—Telfair Oil 1.
BURKE COUNTY
Wells Drilling
Green Cut—Three Creeks Oil 1.
WHITEFIELD COUNTY
Wells Drilling
Dalton-Richardson O. & G. 1.

NEW GUINEA OIL SAMPLE

A report from Melbourne states that Mr. Pearce, the Minister for Home and Territories, has issued a report by the Federal analyst indicating the suitability for liquid fuel purposes of a 4-gallon sample of oil from New Guinea.

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS PIPE LINE REPORT FOR AUGUST

Runs

	Month	Dy. Av.
*Prairie P. L. Co.	4,057,900	130,900
Gulf P. L. Co.	1,313,700	42,378
Texas P. L. Co.	365,910	11,803
Magnolia Pet. Co.	1,220,434	39,369
Empire P. L. Co.	855,506	27,597
Cosden P. L. Co.	879,320	28,365
*Sinclair P. L. Co.	1,347,043	43,453
*Other lines	8,742,000	282,000
Total	18,781,813	605,865
Total	17,394,174	561,103
Difference	1,387,639	44,762

Shipments

†Prairie P. L. Co.	3,353,251	108,169
Gulf P. L. Co.	1,101,896	35,545
Texas P. L. Co.	626,508	20,210
Magnolia Pet. Co.	726,892	23,448
Empire P. L. Co.	768,763	24,799
Cosden P. L. Co.	848,481	27,370
†Sinclair P. L. Co.	1,777,529	57,340
Other lines	8,370,000	270,000
Total	17,573,320	566,881
Total	17,101,885	551,674
Difference	471,435	15,207

Stocks

*Prairie Oil & Gas Co.	24,900,000
*Prairie Pipe Line Co.	2,000,000
Gulf Pipe Line Co. & Gypsy Oil Co.	9,686,289
The Texas Co.	6,896,397
Magnolia Pet. Co.	8,981,748
Empire Pipe Line Co.	3,429,360
Cosden Pipe Line Co.	3,012,521
*Sinclair Crude Oil Purchasing Co.	29,550,000
Carter Oil Co.	18,067,845
*Other lines	10,150,000
Total	116,674,160
Total	113,260,350
Difference	3,413,810

*Estimated. †Includes shipments of Texas crude.

Note: Stocks do not include approximately 8,800,000 bbls. of crude oil held in storage on priate tank farms and leases.

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for July and August:

	July, '24	Aug., '24
Nat. Transit	195,724.63	181,414.09
S. W. Pa. P. L.	86,923.31	81,053.49
Eureka P. L.	382,209.08	345,884.02
Buckeye P. L. (Macksburg)	269,834.77	260,181.20
Buckeye P. L. (Cleveland)	15,507.35	13,813.10
Buckeye P. L. (Lima, etc.)	144,639.48	133,212.27
Indiana P. L.	14,029.75	12,415.93
Cumberland P. L.	372,592.14	333,217.36
N. Y. Transit	19,200.74	18,749.61
Tidewater P. L.	150,278.48	145,298.64
Pure Oil P. L.	191,736.38	186,362.59
Emery P. L.	38,578.26	37,151.95
Indian Ref.	68,317.73	60,022.97
Paragon Dev.	40,885.28	41,247.90
Pittsburgh P. L.		8,191.73
Total	1,990,457.38	1,858,216.83
Daily average	64,208.30	59,942.48

Note: Indian Refining Co. also reported other receipts of 339,488.37 bbls. Paragon Refining Co. had other receipts of 100,119.59 bbls. Paragon Development Co. had other receipts of 4,793.37 bbls. Pittsburgh Pipe Line had other receipts of 4,565.10 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for July and August:

	July, '24	Aug., '24
Nat. Transit	303,876.41	271,259.10
S. W. Pa. P. L.	271,073.29	251,743.43
Eureka P. L.	165,023.19	213,589.82
Buckeye P. L. (Macksburg)	93,605.19	204,539.98
Buckeye P. L. (Cleveland)	876.86	975.11
Buckeye P. L. (Lima, etc.)	433,656.26	652,140.37
Indiana P. L.	775,601.07	775,599.54
Cumberland P. L.	156,012.46	178,694.99
Crescent P. L.	19,073.73	5,925.24
N. Y. Transit	618,568.71	354,470.00
Northern P. L.	74,946.19	102,861.64
Tidewater P. L.	186,376.98	83,514.81
Pure Oil P. L.	176,478.48	189,388.30
Emery P. L.	40,636.74	44,128.24
Paragon Ref.	113,954.06	96,765.40
Indian Ref.	384,871.28	356,300.95
Paragon Dev.	35,090.09	23,117.96
Pittsburgh P. L.		11,702.21
Total	3,849,810.99	3,816,717.09
Daily average	124,187.45	123,119.90

Gross Stocks

The gross stocks held by various pipe lines in the oil producing section of New York, Pennsylvania, West Virginia, Ohio Indiana and Kentucky at the close of July and August were as follows:

	July, '24	Aug., '24
Nat. Transit	861,178.46	868,774.55
S. W. Pa. P. L.	695,175.45	704,080.51
Eureka P. L.	2,070,912.53	1,724,768.60
Buckeye P. L. (Macksburg)	463,792.75	307,678.96
Buckeye P. L. (Cleveland)	67,945.23	41,396.68
Buckeye P. L. (Lima, etc.)	3,857,335.00	4,247,229.25
Indiana P. L.	630,362.03	639,240.14
Southern P. L.	472,748.67	606,326.30
Southern P. L.	472,718.67	606,326.30
Crescent P. L.	64,617.36	58,570.05
N. Y. Transit	734,190.19	934,491.17
Northern P. L.	794,981.90	731,182.89
Pure Oil P. L.	381,208.42	372,139.83
Emery P. L.	13,071.97	6,883.96
Paragon Ref.	161,091.89	163,900.12
Indian Ref.	150,247.74	188,296.83
Paragon Dev.	14,680.18	12,195.03
Pittsburgh P. L.		5,137.24
Total	12,062,361.32	12,221,675.55
Increase	518,156.90	159,314.23

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of July and August, showing the gross stocks of the above fields:

	July, '24	Aug., '24
Pennsylvania	3,801,868.35	3,501,370.36
Lima	1,236,881.61	1,255,030.74
Kentucky	1,551,765.78	1,471,375.42
Mid-Continent	5,367,327.04	5,866,141.67
Illinois	104,518.54	127,757.36
Total	12,062,361.32	12,221,675.55

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1921	1922	1923	1924
Jan.	64,460	67,702	75,790	62,638
Feb.	70,054	75,096	71,093	68,023
March	68,555	78,531	76,592	68,721
April	65,036	75,462	75,614	71,058
May	65,466	77,592	77,365	63,942
June	62,438	76,193	77,593	63,230
July	59,486	76,435	71,879	64,208
August	64,888	79,387	76,910	59,942
Sept.	60,110	78,512	72,358	.....
Oct.	57,688	77,209	76,256	.....
Nov.	58,470	75,313	70,762	.....
Dec.	61,000	73,351	69,271	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for past four years:

	1921	1922	1923	1924
Jan.	115,550	119,792	171,067	145,518
Feb.	96,736	111,362	164,219	148,732
March	84,168	127,753	185,487	147,098
April	101,015	127,068	170,761	147,611
May	100,253	127,840	177,102	134,997
June	105,037	137,638	173,598	143,010
July	97,096	137,872	168,330	124,187
August	101,652	153,275	142,766	123,120
Sept.	117,440	158,761	137,266	.....
Oct.	105,728	165,345	134,597	.....
Nov.	121,803	165,677	131,426	.....
Dec.	104,023	172,861	139,909	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields including oil received from other lines, at the close of each month for the past three years:

	1922	1923	1924
Jan.	16,297,858	14,040,567	13,097,120
Feb.	17,009,293	14,028,437	13,264,040
March	16,877,937	13,873,146	13,206,772
April	16,777,842	13,737,575	13,032,150
May	16,948,962	13,816,622	11,335,200
June	16,810,169	14,541,253	11,544,320
July	16,660,286	14,645,584	12,061,240
Aug.	16,235,229	14,770,539	12,221,675
Sept.	16,228,545	14,803,444	.....
Oct.	15,757,746	14,504,111	.....
Nov.	15,171,972	14,157,726	.....
Dec.	14,323,765	13,444,361	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and accounted in the stocks and averages reported above:

1923—	Receipts	Shipments	Stocks
Aug.	3,199.07	3,789.34	32,974.93
Sept.	2,829.79	5,232.38	30,572.34
Oct.	2,694.23	5,251.81	28,015.76
Nov.	2,980.66	4,150.98	26,845.44
Dec.	2,893.07	3,499.27	26,239.24
1924—			
Jan.	2,942.19	3,641.71	25,539.72
Feb.	2,151.78	1,926.55	25,764.95
March	3,398.78	1,716.28	27,447.45
April	3,311.84	2,066.78	28,692.51
May	3,036.50	5,338.21	26,390.80
June	3,188.31	407.01	29,172.10
July	3,067.74	3,334.29	28,905.55
Aug.	2,901.36	6.31	31,800.60

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, Sept. 1	2,287,989.6
Runs from wells	691,985.2
Other receipts	129,421.2
Regular deliveries	487,346.0
Other deliveries	354,811.2

The amount of Illinois oil run by the Tidewater Pipe Line Co. in August was 28,470.81 bbls., and deliveries were 21,984.42 bbls. Adding these figures to those of the Illinois Pipe Line Co., makes the runs and deliveries from the Illinois field as follows:

1923—	Runs	Deliveries
August	594,747.94	367,151.2
September	542,561.59	306,225.6
October	576,867.09	347,811.2
November	546,859.43	346,922.0
December	534,185.04	383,542.4
1924—		
January	493,337.25	280,701.6
February	535,490.70	353,611.2
March	611,289.36	383,542.4
April	514,356.43	339,546.4
May	751,080.44	510,414.4
June	725,060.87	528,403.2
July	759,646.84	532,396.0
August	720,457.72	519,715.2

The Tidewater Pipe Co., Ltd., also delivered in August 155,282.07 bbls. of Oklahoma oil. The total deliveries of all grades by the Tidewater were 270,791.70 bbls.

AVERAGE WEEKLY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

Av. bbls. per wk.—	ATLANTIC PORTS						GULF COAST PORTS						Total All Ports
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Pt. Arthur Sabine Pass	Tampa	Total		
May	42,903	33,194	615,709	92,706	61,642	846,154	.....	70,127	.....	.....	70,127		916,281
June	121,800	34,300	581,000	103,369	51,331	891,800	.....	.....	.....	.....	.....		891,800
July	37,710	16,129	473,516	84,452	42,452	654,249	.....	16,936	.....	.....	.....		671,185
August	114,032	33,419	654,387	71,806	33,871	907,515	907,515	.....	6,774	.....	.....		914,289

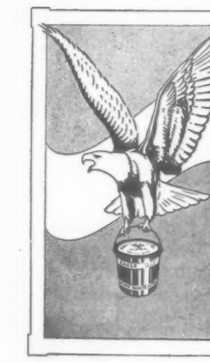
AVERAGE WEEKLY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

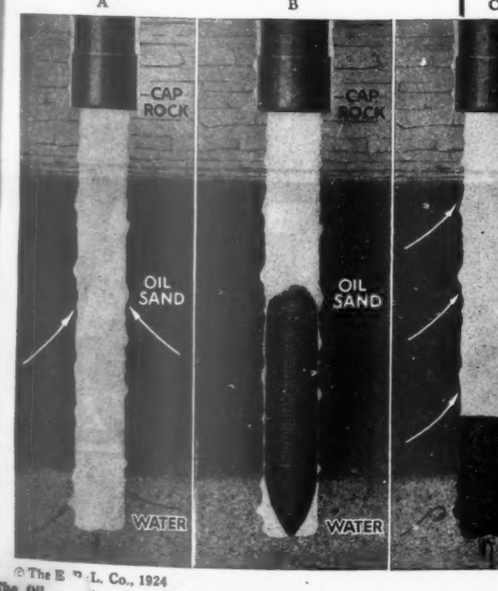
Av. bbls. per wk.—	ATLANTIC PORTS						GULF COAST PORTS					Total All Ports
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Pt. Arthur Sabine Pass	Tampa	Total	
March	148,358	141,806	283,458	124,642	292,642	990,906	463,806	365,358	223,552	55,545	1,108,261	2,099,167
April	152,369	154,931	913,900	94,982	248,969	971,131	382,900	348,131	119,000	15,869	865,900	1,837,031
May	156,485	134,602	288,903	59,612	300,097	939,699	315,679	295,358	199,591	38,164	848,792	1,788,491
June	120,169	108,731	434,931	68,131	239,400	971,362	412,741	261,762	159,831	33,831	858,165	1,829,527
July	62,097	81,231	445,067	38,418	277,970	904,843	320,194	273,455	130,739	34,973	759,361	1,664,204
August	80,839	57,355	247,710	98,903	207,065	691,872	370,549	238,677	115,839	14,677	739,742	1,431,614

GROSS PRODUCTION AND DAILY AVERAGE IN THE UNITED STATES FOR 12 MONTHS

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Wyoming-Montana	Other Fields	Total
1923—										
September:	Month	25,762,487	12,812,220	12,879,682	2,234,730	3,164,900	1,787,430	4,661,550	3,269,551	66,472,550
	Daily average	858,750	427,074	429,323	74,491	105,497	59,581	152,052	105,468	2,215,753
October:	Month	24,576,400	12,961,782	15 933,383	2,336,346	3,120,274	1,837,990	3,540,880	3,475,913	67,783,968
	Daily average	792,787	418,122	513,980	75,366	100,654	59,290	114,222	112,126	2,186,577
November:	Month	22,397,848	12,334,620	15,556,507	2,268,840	2,973,000	1,816,860	4,792,466	3,138,464	65,278,605
	Daily average	746,595	411,154	518,550	75,628	99,100	60,562	159,782	104,615	2,176,953
December:	Month	21,899,247	12,232,259	10,065,856	2,345,150	4,017,850	1,919,574	3,304,326	3,147,812	60,932,075
	Daily average	706,427	394,589	324,705	75,650	129,608	61,922	106,591	101,542	1,965,034
1924—										
January:	Month	20,912,500	12,292,833	10,326,643	2,233,878	3,686,680	1,801,175	4,636,230	2,950,500	58,840,439
	Daily average	674,597	396,543	333,449	71,738	118,925	51,651	149,556	95,177	1,897,937
February:	Month	19,341,226	12,236,637	10,495,486	2,112,853	3,302,750	1,497,450	4,168,450	2,997,709	56,152,561
	Daily average	666,939	421,953	361,913	72,857	113,888	51,629	143,740	103,369	1,936,256
March:	Month	19,913,262	13,336,851	12,077,617	2,206,425	3,882,695	1,701,593	4,993,899	3,258,000	60,270,342
	Daily average	642,363	430,221	389,601	71,175	125,248	54,890	128,835	105,097	1,945,169
April:	Month	19,299,849	13,452,240	11,725,830	2,265,090	4,068,225	1,495,582	3,901,755	3,231,000	59,439,571
	Daily average	643,328	448,408	390,861	75,503	135,608	49,853	130,058	107,700	1,981,197
May:	Month	19,833,576	14,248,057	11,923,316	2,486,696	4,659,117	1,596,701	4,032,564	3,355,000	62,135,027
	Daily average	639,792	459,615	384,623	80,216	150,291	51,507	130,109	108,226	2,004,356
June:	Month	18,807,999	14,457,390	11,515,020	2,473,320	4,756,443	1,811,880	3,798,634	3,211,500	60,332,186
	Daily average	626,933	481,913	383,834	82,444	158,548	60,419	126,621	107,050	2,011,071
July:	Month	19,274,755	15,191,860	11,820,889	2,678,834	4,598,160	1,931,641	3,728,525	3,387,990	62,612,654
	Daily average	621,766	490,050	381,319	86,414	148,321	62,311	120,276	109,290	2,019,763
August:	Month	19,112,998	16,572,104	11,805,753	2,717,398	4,400,116	1,898,246	3,816,627	3,280,017	63,603,259
	Daily average	616,548	534,584	380,831	87,658	141,810	61,234	123,117	105,807	2,051,715
	Total 12 months	251,132,147	162,128,853	146,135,982	28,349,552	46,630,210	20,896,122	48,276,897	38,703,447	742,253,210
	Daily average	686,153	442,975	399,279	77,458	127,405	57,093	131,904	105,747	2,029,814

Damming the Flow of Water by Plugging Oil Wells with EAGLE LEAD WOOL





HUNDREDS of oil wells were reclaimed for profitable production during the past year by plugging them with Eagle Lead Wool. In every case, Eagle Lead Wool either shut off the flow of water entirely or else greatly reduced it. By its use operating companies have avoided the heavy burden of lifting water and also the expensive process of taking out the water, emulsified with the oil. Eagle Lead Wool has enabled them to get more barrels of oil out of their wells and get that oil free from water. Eagle Lead Wool stops the flow of water at its source and keeps it stopped.

Lead Wool for plugging oil wells is a proven thing. While its use has only become general during the past year, the results obtained have shown not only its efficiency, but also its dollar and cents value in reclaiming production. Wells that were considered as played out, and wells that were considered a total loss, have from a producing standpoint, been profitably reclaimed.

In the drawings at the left [A] represents an unplugged well, in which the water could mix freely with the oil. [B] shows the cartridge container in place, ready for tamping. [C] the well when completely plugged, the water completely stopped.

The method of plugging oil wells with Lead Wool is an Eagle-Picher development worked out by Eagle-Picher men on oil operations in the Mid-Continent field. The material is inserted in cartridge-like containers dropped into the well and then tamped. It forms a perfect seal, as the Lead Wool is forced into every irregularity of the wall and under pressure consolidates to make a plug of practically solid lead, shutting off every water course at its source. Eagle Lead Wool is pure double refined lead. It is permanent and non-corrosive. The process is described in detail in Lead Wool for Plugging Oil Wells.

Eagle Lead Wool is stocked by most of the leading oil field supply companies in the Mid-Continent Field. Ask for it.

Send for your copy of "Lead Wool for Plugging Oil Wells," or write us for detailed suggestions on oil wells in which you are troubled with water.

The EAGLE-PICHER LEAD COMPANY · JOPLIN, MO.

EAGLE *For Plugging Oil Wells* **LEAD WOOL**

Sales Offices: CINCINNATI CLEVELAND PITTSBURGH PHILADELPHIA NEW YORK MINNEAPOLIS BUFFALO DETROIT BALTIMORE NEW ORLEANS KANSAS CITY ST. LOUIS CHICAGO

Plants: CINCINNATI NEWARK GALENA, KAS. HENRYETTA, OKLA. PICHER, OKLA. EAST ST. LOUIS, ILL. CHICAGO ARGO, ILL. JOPLIN, MO. HILLSBORO, ILL. (2 *Plants*)

© The E[illegible] L. Co., 1924

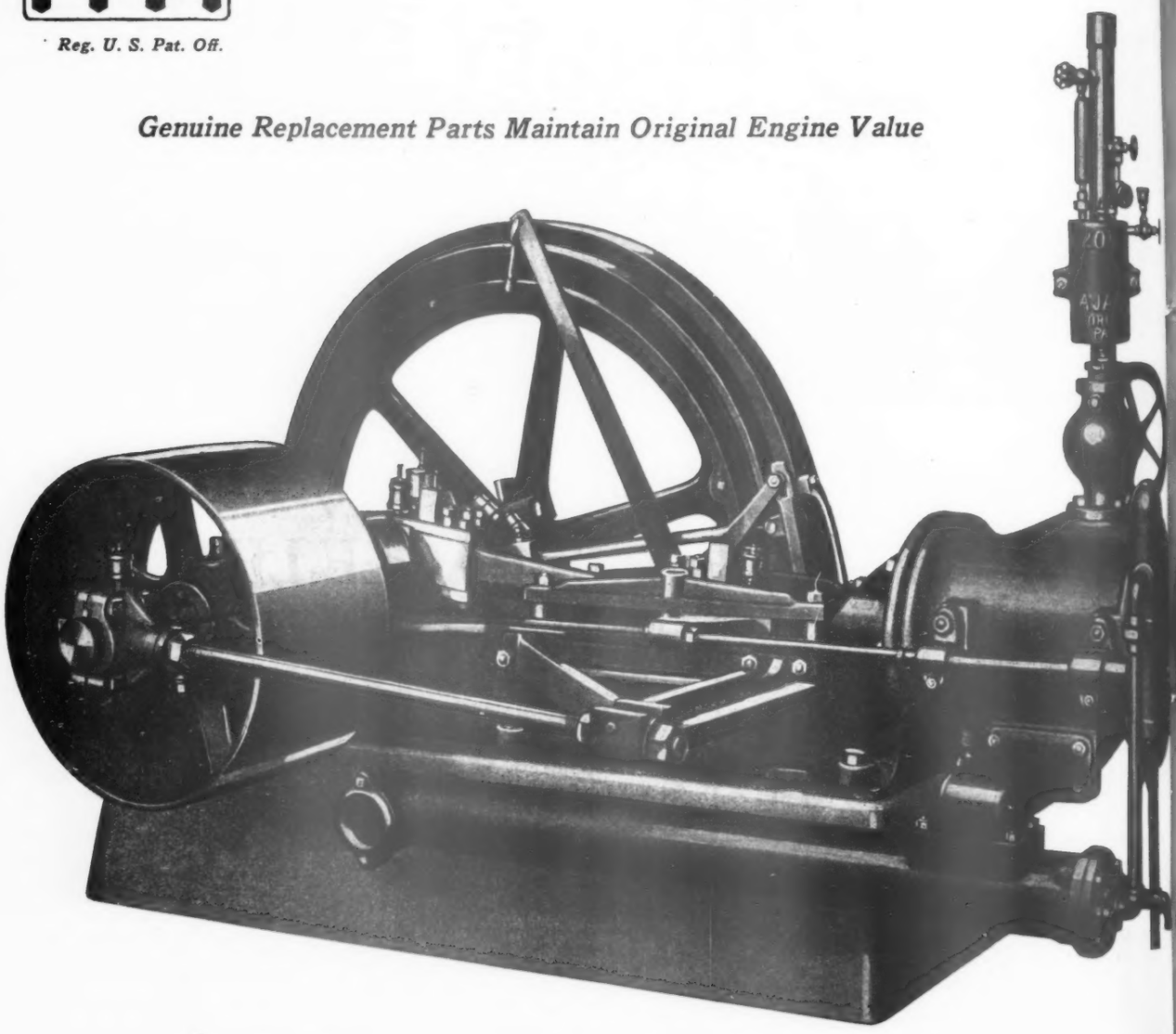
The Oil [illegible]as Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription price $6.00 a year; 15 cents a copy. Entered as second-class mail matter December 15, 1911, at the postoffice at Tulsa, Okla., under the Act of March 3, 1879.

AJAX ENGINES

Reg. U. S. Pat. Off.

The Ajax Engine in sizes 13x14, 14x14, 14x16, and 16x16 are ideal for deeper and heavier drilling.

Genuine Replacement Parts Maintain Original Engine Value



AJAX STEAM

Insist upon Genuine

Big Engines for Big Jobs

For deep drilling Ajax makes big engines in sizes 13″x14″, 14″x14″, 14″x16″ and 16″x16″. The same precision and reliable workmanship which has made the smaller sizes famous enters into the manufacture of these larger and more powerful engines.

Interchangeable parts means that practically 70 per cent of the parts used on engines 10″x 12″ to 12″x12″ will interchange and likewise parts of the 13″x14″ and 14″x14″ engines will interchange.

When overhauling your Ajax Drilling Engine bear in mind that, "Genuine Replacement Parts Maintain Original Engine Value."

Manufactured by

AJAX IRON WORKS

Corry, Pa.

Distributed by

NATIONAL SUPPLY COMPANIES

In every oil field

34114

DRILLING ENGINES

Ajax Replacement Parts

Moore Derrick
Defies Lightning and Fire

while floor, walk, sills and all other wood parts burn up

DURING a storm north of Hominy, Oklahoma, lightning struck the drilling cables on a derrick belonging to the Superior Oil Corporation. It parted the cable near the ground, causing a string of 10-inch tools to drop over 1,500 feet to the bottom.

The well was making two million feet of gas which caught fire and burnt violently for five hours before successfully put out. All wood parts were quickly destroyed, including floor, walk, frame and main sill, siding, bandwheel and posts.

The steel derrick remained standing, practically unhurt. Other steel equipment such as Moore Steel Bull and Calf Wheels were also intact and in good working order, except for the wood brake cants which were completely consumed.

The photograph shows the derrick and rig after the fire, just as the rig builders were getting ready to replace the timbers and other burned woodwork. The Moore steel derrick itself, resting on concrete corners, needed no repairs.

72-Page Catalog Free!

Profusely illustrated. Most complete book on steel derricks and drilling rigs yet published. Free for the asking to operators and drillers.

LEE C. MOORE & COMPANY, Inc., Pittsburgh, Pa.

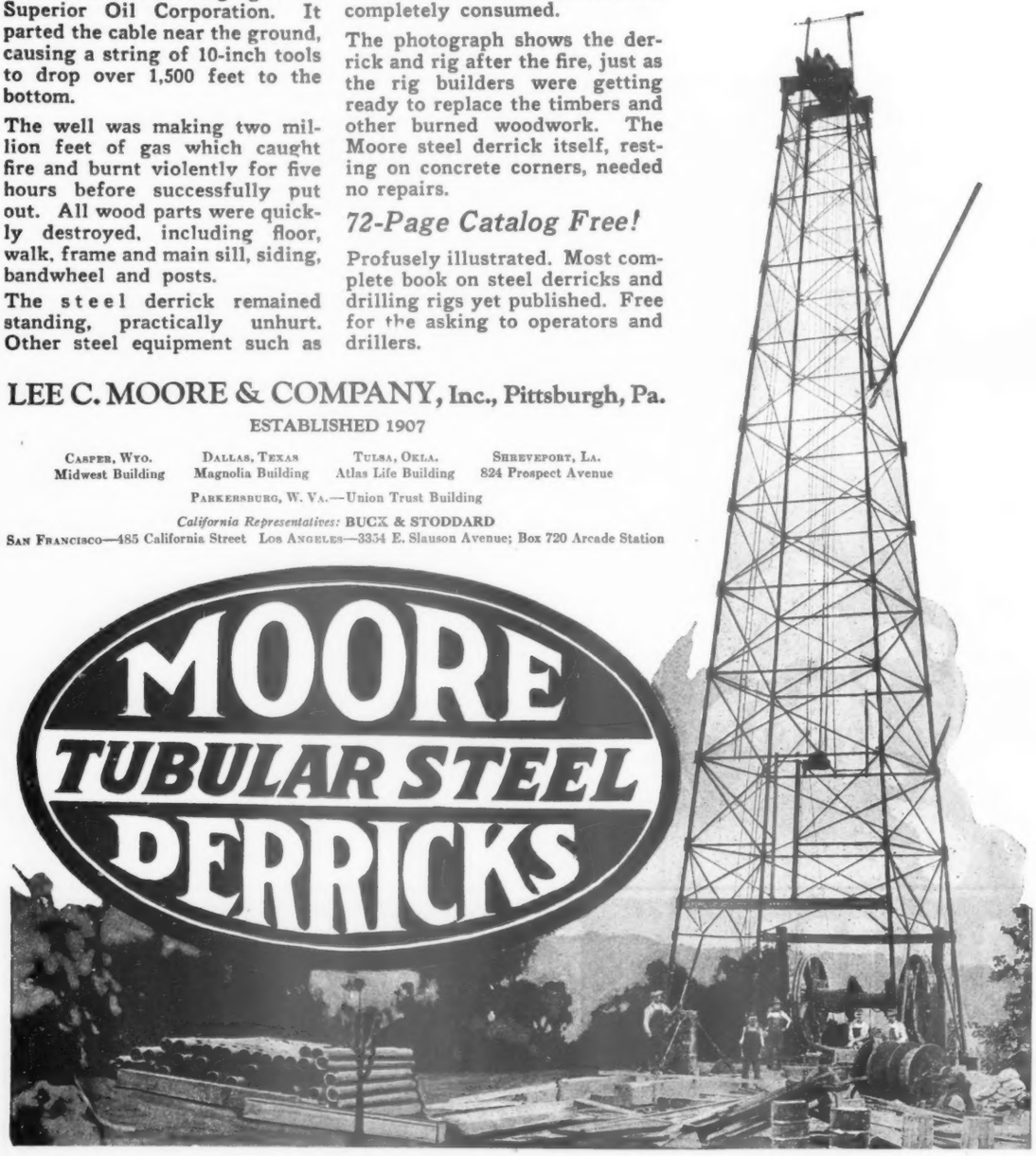
ESTABLISHED 1907

CASPER, WYO. Midwest Building — DALLAS, TEXAS Magnolia Building — TULSA, OKLA. Atlas Life Building — SHREVEPORT, LA. 824 Prospect Avenue

PARKERSBURG, W. VA.—Union Trust Building

California Representatives: BUCK & STODDARD

SAN FRANCISCO—485 California Street LOS ANGELES—3354 E. Slauson Avenue; Box 720 Arcade Station



super—
strength

lasting
dependability

KAW

economic
service

quick
shipment

Every quality that good refinery equipment should have is to be found in KAW-Built products. Super-Strength is built in from the first rivet to the finished product. Lasting dependability is guaranteed by master steel fabricators. Economic service is predetermined in the design and fabrication of every ounce of steel used. KAW equipment possesses without question all the vital traits that the best in skilled labor and modern machinery can put into it.

In addition to special specification jobs promptly made to order, we keep a large stock of standard refinery equipment ready for immediate shipment.

The judgment of the representative refiners throughout the Mid-Continent Field stands behind you in the selection of KAW products.

Save money by getting KAW specifications and prices first. Write or wire.

KAW BOILER WORKS COMPANY

General Office and Plant: 1st and Walker Ave.
KANSAS CITY, KANSAS

On *time*—and exactly to specifications! That's a combination that makes money for you. And here's the organization to give it

GASOLINE—all grades
LUBRICATING OILS—all grades. Tank cars, carloads in barrels
CYLINDER STOCKS—600, 650 Steam refined and filtered
FUEL and GAS OIL—all grades
WATER WHITE KEROSENE Gravities 40 to 47
MINERAL SEAL or 300 OIL
—and all other Petroleum Products.

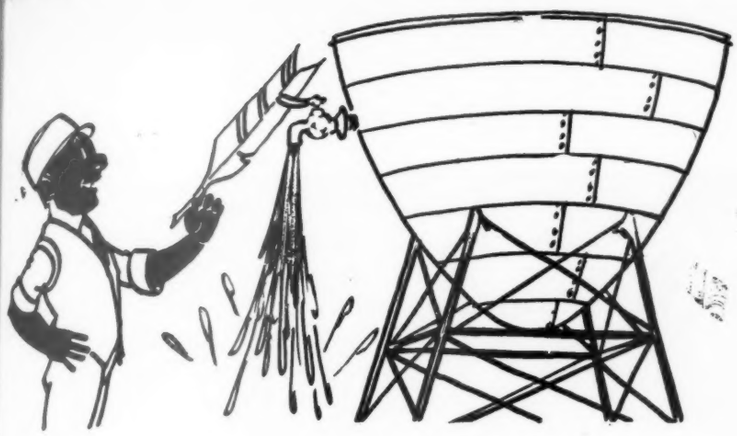
LOOK at our list of refineries. In addition we have our own pipe lines and tank cars. Our own telegraph lines. More than 5,000 producing wells in the country's premium crude fields. We can and do absolutely control quality—and strictly follow specifications.

THE PURE OIL COMPANY

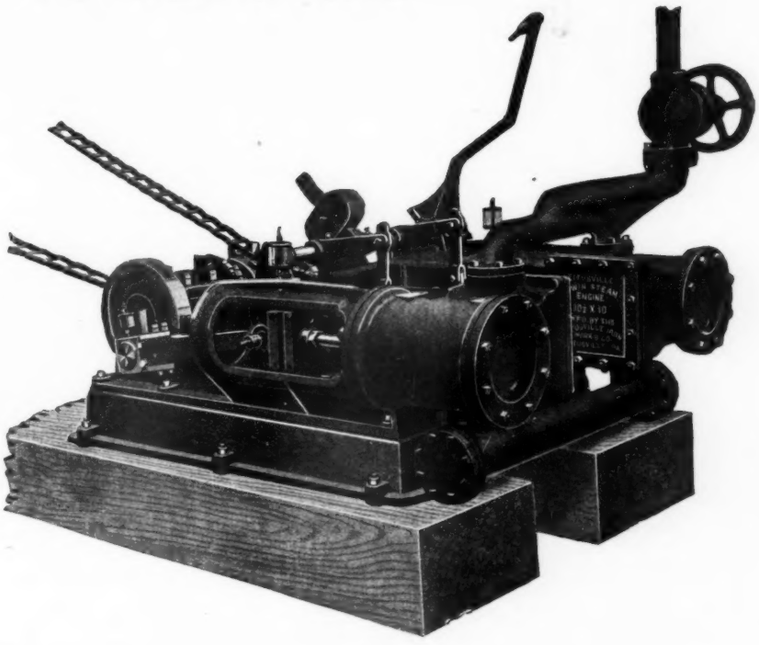
General Offices: COLUMBUS, OHIO

Independent—and successful, through unvarying high quality in all products

Refineries at		*Branch Offices at*	
Marcus Hook, Pa.	Minneapolis, Minn.	Chicago	Pittsburgh
Warren, Pa.	Cushing, Okla.	Philadelphia	Warren, Pa.
Heath, Ohio	Ardmore, Okla.	Dallas	Tulsa, Okla.
Cabin Creek Jct., W. Va.	Muskogee, Okla.	New York	Charleston, W. Va.
	Smith's Bluff, Tex.	Minneapolis	Knoxville, Tenn.



a reservoir of POWER controlled by a FEATHER TOUCH!



TITUSVILLE *twin cylinder* Drilling Engine

A TREMENDOUS power reserve is constantly ready to be tapped for the final "kick"—in the TITUSVILLE TWIN CYLINDER DRILLING ENGINE.

This power is evenly maintained thereby saving time and effort when going into and coming out of the hole with long lengths of drill pipe. The engine can be checked instantly, thus demonstrating its ease of operation and flexibility.

The TITUSVILLE IRON WORKS Co.
TITUSVILLE ~ PENNA.

TITUSVILLE EQUIPMENT

Oil Country Boilers
Steam Drilling Engines
Tico Gas Engines
Flapper Valve Pumps
Pumping Powers
Twin Drilling Engines
Rotary Machines Rotary Drawworks
Swivels Slush Pumps
Crown Blocks
Traveling Blocks
Rotary Drilling Specialties

TITUSVILLE OIL COUNTRY MACHINERY

RUGGED ~ ENDURING

AFFILIATED COMPANIES FOR DISTRIBUTION

For Mid-Continent, Eastern, Western and Coastal Fields:
The Continental Supply Co.

For California:
The Republic Supply Company of California

For Export:
The Continental Well Supply Company,
No. 2 Rector Street,
N. Y. City

10 DAYS' FIRE COULD NOT HURT IT

In the Cromwell field recently a big gasser burned furiously for 10 days.

After the fire the men examined the valves. The Extra-Heavy Jarecki Hydraulic Gate Valve pictured at the left was found in perfect condition. As one of the men remarked, "it didn't even sizzle."

You don't expect your valves to pass thru 10-day fires perhaps, but you do expect them to stand up against the roughest use that any equipment has to put up with anywhere. It is comforting to know under these conditions that your valves bear the Jarecki mark—a sure sign of absolute dependability. Seventy-two years' experience does make a difference. There is a Jarecki store near you.

We Sell Everything Used or Needed About an Oil or Gas Well

Jarecki

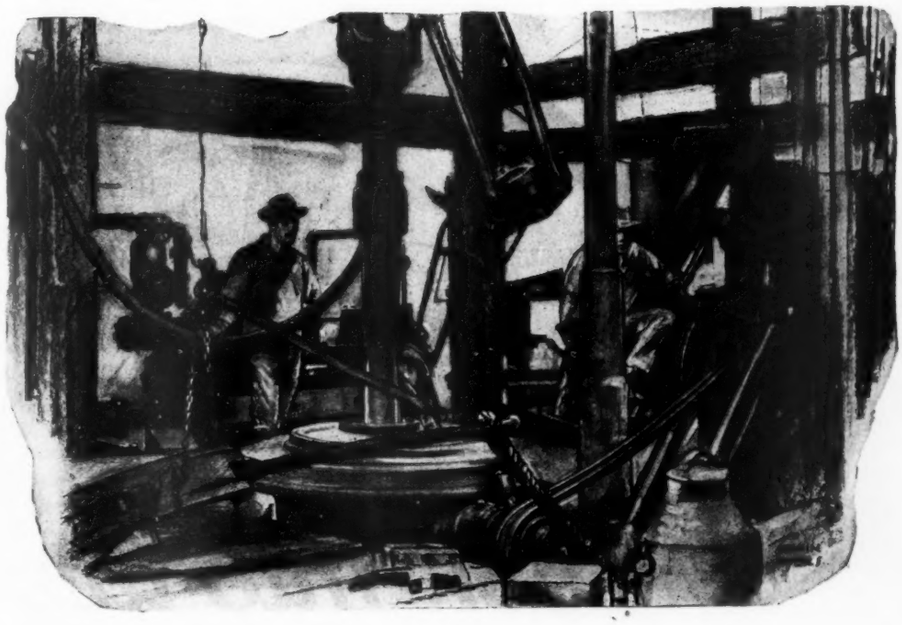
MANUFACTURING COMPANY

Erie, Pa., U. S. A.

St. Louis Pittsburgh El Dorado Tulsa Eastland

J

JARECKI VALVES



Drill Bits That Last Longer

Every conscientious drill bit manufacturer has cost records covering the dressing of drill bits. If even a small percentage of these dressings can be avoided, you know the savings effected will mean much to the operator and go far toward popularizing your tools. Why not put your drill bit steel problems up to our metallurgists for solution? We make no charge. Other bit manufacturers have done so to their profit. Ask for booklet, "Agathon Alloy Steels."

AGATHON STEELS

THE CENTRAL STEEL COMPANY, Massillon, Ohio

Swetland Bldg., Cleveland
Aeolian Bldg., New York
Book Bldg., Detroit
Universal Block, Syracuse
Peoples Gas Bldg., Chicago
Widener Bldg., Philadelphia

AGATHON ALLOY STEELS

By Invitation Member

Look into this valve business—

and avoid making costly mistakes

IF DARLING GATE VALVES weren't any better than any other valves there would be no excuse for making comparisons. But they are better—a whole lot better, and here's why—

They operate easily because the pressure of the wedges against the discs is released at the first turn of the wheel, allowing the discs to ascend free and clear of seats. In closing, no pressure is put on the discs until just before they are tight shut; then the wedges force them squarely against the seats, making a perfect seal.

They close tight because the discs are free to revolve with each operation—thus seating in a new clean position.

They last longer because the ground faces of the discs are self-cleaning; there are no pockets or ribs to collect sediment or scale, and because they are honestly made of materials best suited for oil field work.

For your own satisfaction, compare Darling Gate Valves with any other make—or better still—ask any Old Timer what luck he has had with Darlings.

DARLING VALVE & MANUFACTURING CO.,

MAIN OFFICE: WILLIAMSPORT, PA.

Branch Offices:
New York
Chicago
Oklahoma City
(Mr. Earl J. Connelly)
Houston
(Mr. Frank Cavenagh)

DARLING
GATE VALVES

Mid-Continent Distributors
Frick-Reid Co., Tulsa and Branches in all fields.
International Supply Co., Tulsa and branches.
Atlas Supply Co., Muskogee, Oklahoma City and Fort Worth.
Petroleum Supply Co., Houston.

ATHEY Wagons Reduce Transportation Costs

ATHEY TRUSS WHEEL WAGONS have these decided advantages:

1. The structure of the track band is like the truss work of a bridge inverted. It resists upward pressures from ground obstacles like a bridge resists downward pressures. Consequently the track band is at all times a level, rigid track over which travel the wheels that carry the load.

2. The broad track band has more than 4¼ square feet of surface in contact with the ground at all times, compressing the mud or loose sand. Truss Wheels are NON-MIRING because they travel on TOP of the mud—not IN it.

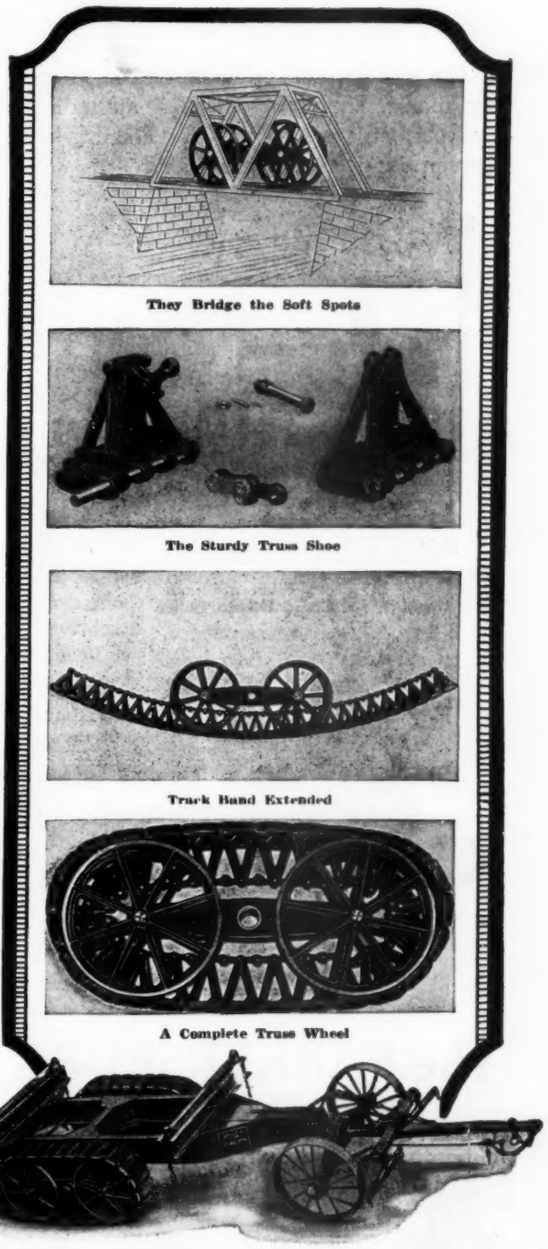
3. Due to the peculiar construction of the track band, Truss Wheels are easily moved. A push of a finger rolls them along on level ground. This permits the hauling of 30% more tonnage with 50% less tractive power.

4. No motor truck contains better material or workmanship. ATHEY Truss Wheel Wagons reduce maintenance to the minimum. Alemite lubricating system.

5. Capacity 10 tons. Capacity loads can be hauled wherever animals can travel.

6. You can reduce your cartage costs and haul every day regardless of road conditions by using ATHEY NON-MIRING WAGONS.

Send for further information



They Bridge the Soft Spots

The Sturdy Truss Shoe

Track Band Extended

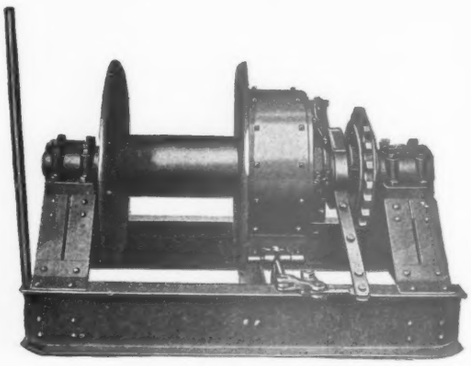
A Complete Truss Wheel

ATHEY TRUSS WHEEL CO.
130 N. Wells St., Chicago, U. S. A.
Cable address: "Trusswheel, Chicago"
The Baldwin Locomotive Works, Export Agents, Philadelphia, Pa.

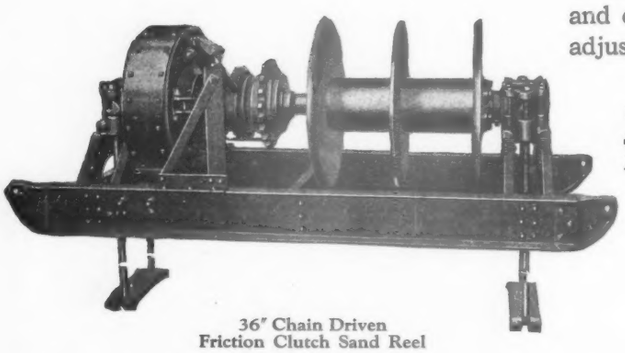
181

"Pulling a Ten-Inch Bailer from a Depth of 3150 Feet and works perfectly"

The above is taken verbatim from one of the many reports in our files, all indicating the perfect working of Parkersburg Chain Driven Sand Reels and Bailers.



26″ Friction Clutch
Chain Driven Bailer



36″ Chain Driven
Friction Clutch Sand Reel

And perfect working of these Machines means economy wherever they are used.

Economy of time because the bailing operation is speeded up to an almost unbelievable degree.

Economy of materials as there is no contact with or wear on the Band Wheel.

No damage to belt, and sand line is safely stored and protected.

Economy of human exertion because there is no necessity for the operator to spend all his strength in maintaining friction between Sand Reel and Band Wheel, nor does he have to contend with the usual jars and jolts.

The line includes a size and type for both Rotary and Cable Tool work and for depths of from 500 to over 3000 feet.

Installation is simple and operation is easy and does not require constant attention and adjustment.

Let us tell you more regarding these perfected, durable, efficient and above all—economical Machines.

Ask for Booklet "Cut Your Bailing Time in Half"

The PARKERSBURG RIG & REEL COMPANY

Main Office and Works, Parkersburg, W. Va. ***New York Office,*** 30 Church St.

California Representatives, BUCK & STODDARD
485 California St., San Francisco, Calif.; Box 720, Arcade Station, Los Angeles, Calif.

District Offices and Distributing Warehouses from which Parkersburg Service is available

TEXAS
*Houston
Breckenridge
Corsicana
Iowa Park
Luling
Orange
Ranger

WYOMING
*Casper

LOUISIANA
*Shreveport
Haynesville
Cotton Valley

KANSAS
Eldorado
Madison

WEST VIRGINIA
Parkersburg
Clarksburg

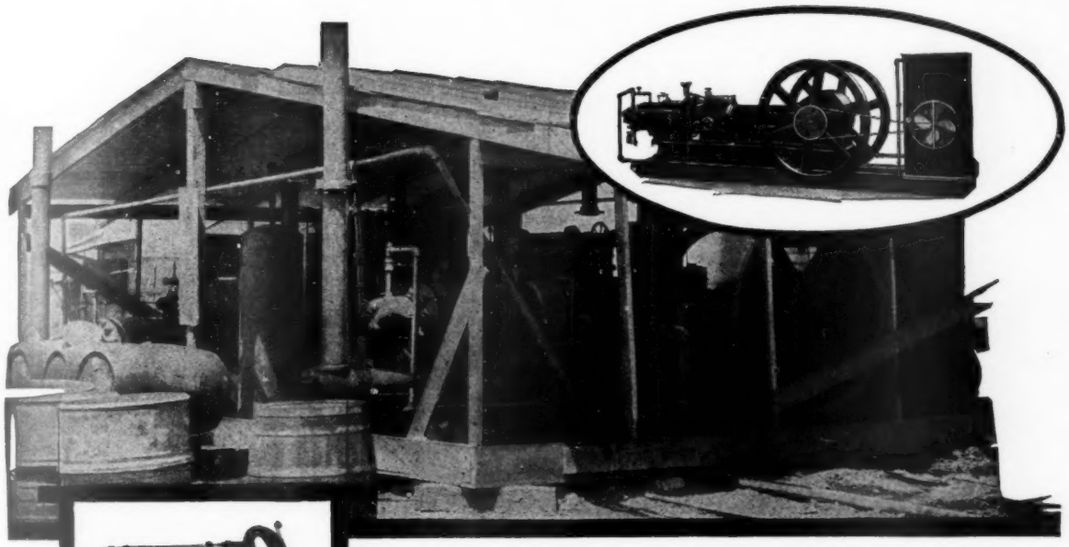
OKLAHOMA
*Tulsa
Bristow
Drumright
Holdenville
Hominy
Okmulgee
Okemah
Wetumka
Tonkawa
Wilson
Shidler
Stroud
Wewoka

ARKANSAS
*El Dorado
Louann
Smackover
McNeil

MONTANA
Sunburst

COLORADO
Denver

*District Offices



Boyer Riveting Hammers

Boyer Hammers give least cost per rivet driven service wherever used. Their rapid powerful blows drive rivets perfectly. Three-unit construction and long-wearing parts keep maintenance costs on an economy basis. Request Bulletin.

The Chicago Bridge and Iron Works use Type N-SO2 CP Compressors. This type compressor is oil-powered; equipped with Simplate Valves; is self-lubricating and has other CP economy features. Stationary and portable types. Request bulletin.

Boyer Hammers Make Perfect Tanks for this Company

THREE hundred and thirty-six "7-Ring-80" oil tanks, ample storage for one-twentieth of the nation's annual oil production, were Boyer Built by the Chicago Bridge and Iron Works in fifteen months.

Wide experience in building oil tanks, gas holders, water towers, pen-stocks and many other steel plate products led this company to standardize on the Chicago Pneumatic Tools they now use.

Boyer Hammers build their tanks in a hurry, economically and leak-proof. CP Compressors (with Simplate Valves) give them dependable compressed air service with minimum operating costs.

There is a specific size or type of CP Compressor or Boyer Hammer best suited to your requirements. They will give you a year-after-year service of reliability and real economy.

Chicago Pneumatic Tool Company

6 East 44th Street, NEW YORK, N. Y.

CP Products are stocked at Tulsa, Okla., 23 East Brady Street

*Sales and *Service Branches all over the World*

*Birmingham	Denver	*Los Angeles	*Philadelphia	*San Francisco	Berlin	Calcutta	Havana	Kobe	Moncton	Paris	*Sao Paulo	Timmins
*Boston	*Detroit	*Minneapolis	*Pittsburgh	*Seattle	Bombay	Christiania	Helsingfors	London	*Montevideo	*Rio de Janeiro	Seoul	Tokyo
*Chicago	El Paso	*New Orleans	Richmond	*St Louis	Brussels	Dairen	Honolulu	Manila	*Montreal	Rotterdam	Shanghai	*Toronto
*Cincinnati	Houston	*New York	Salt Lake City	Tulsa	*Buenos Aires	Durban	Johannesburg	Milan	Osaka	Santiago	Tampico	*Vancouver
*Cleveland												*Winnipeg

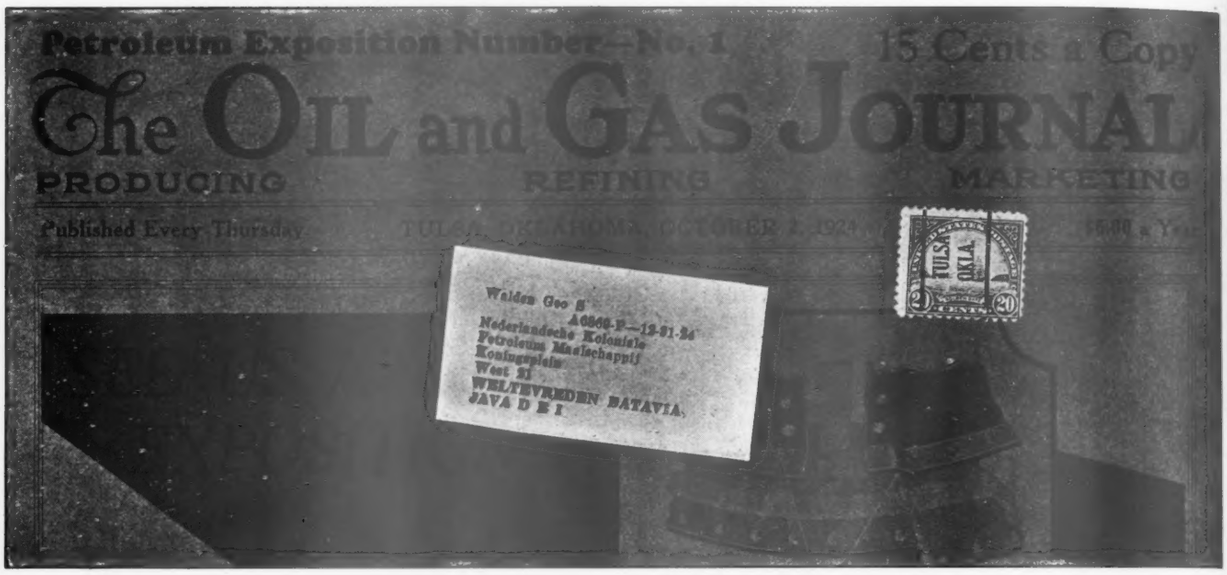
Canadian Pneumatic Tool Company, Ltd., Montreal, manufacturers of Chicago Pneumatic products in Canada
Consolidated Pneumatic Tool Company, Ltd., London, manufacturers of Chicago Pneumatic products in England

J-129

BOYER PNEUMATIC HAMMERS · · LITTLE GIANT PNEUMATIC AND ELECTRIC TOOLS
CHICAGO PNEUMATIC AIR COMPRESSORS · · VACUUM PUMPS · · PNEUMATIC HOISTS,
GIANT OIL AND GAS ENGINES — ROCK DRILLS · · COAL DRILLS

CHICAGO PNEUMATIC

Depend upon that Name



Heaped for Good Measure

This is just one sample of the heaped for good measure service subscribers to The Oil and Gas Journal get throughout the year.

Here is one of the hundreds of subscribers living at the ends of the earth who gets his "Oil Man's Bible" by mail regularly.

It will be noted that while the price per copy of the big Petroleum Exposition Number was the same as usual—Fifteen Cents—it required a Twenty-Cent postage stamp to deliver it to the subscriber.

Readers in the United States have frequently noticed that the postage on the special numbers—like the Annual Number, Semi-Annual Number, etc., costs the publishers almost as much as the price per copy.

The postage bill on a big number like those issued during the Petroleum Exposition is a not inconsiderable item in the cost of getting out such a record-making publication but no expense is spared in reader service. The Oil and Gas Journal is rather proud of paying more in postage than is received from the subscriber. We aim to serve.

Order Now!

It Will Help You!

The Oil and Gas Journal ORDER BLANK

Tulsa, Okla.

You are hereby directed to mail The Oil and Gas Journal to me for.....year. Enclosed find remittance $.....

Classify my interests as checked by me

.....Producing .....Refining

.....Equipment .....Marketing

Name .....

Address .....

City .....

U. S. or Mexico	
One Year	$6.00
Six Months	3.00
Three Months	2.00
FOREIGN	7.00

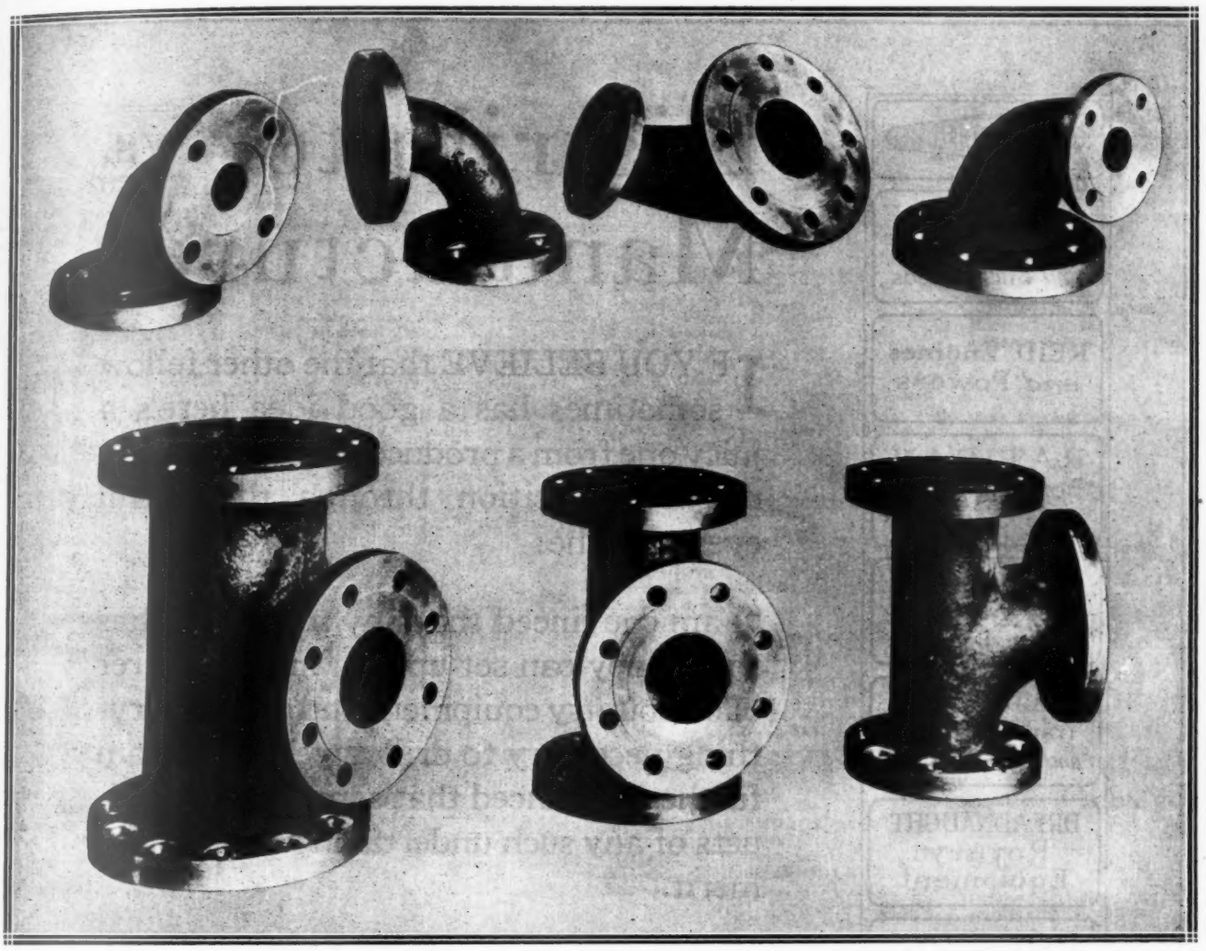


Illustration shows types and sizes of Hi-Steel extra heavy hydraulic fittings for refinery service.

Hi-Steel Fittings Are Good Fittings

They are tough and strong and reliable. On many installations, after more than two years of high pressure and heat, they are still giving the same excellent service as when first installed.

Many refineries are depending upon HI-STEEL Fittings for high pressure production.

They are cast from high grade electric steel and are tested to 2500 lbs.—in fact every operation from melting to delivery is carefully tested and inspected with but one point in view—performance in service.

Let us serve you.

The Ohio Steel Foundry Company

Springfield, Ohio

Plants in:

SPRINGFIELD LIMA BUCYRUS

Offices in:

ST. LOUIS Railway Exchange Bldg. | CLEVELAND Union Trust Bldg. | NEW YORK 50 Church St. | CHICAGO Peoples Gas Building | PITTSBURGH Park Building | PHILADELPHIA 22 S. 15th St.

CAMEL HAIR BELTING

AXELSON
Working Barrels
and Sucker Rods

REID Engines
and Powers

RATIGAN
Beam Hangers,
Sure Grips, etc.

WHITLOCK
All-Manila
Cordage

NATIONAL
Transit Steam
and Power Pumps

DREADNAUGHT
Rotary
Equipment

DONOVAN
Boilers

ROEBLING
Wire Lines

F-R SERVICE
Rubber Belting

JONES & LAUGHLIN
Tubular Goods

Distributor vs. Manufacturer

IF YOU BELIEVE that the other fellow sometimes has a good idea here's a juicy one from a producer who viewed the recent Exposition through thoughtful eyes. Said he:

"I am convinced that any man who has the money can set up as a manufacturer of oil country equipment and make everything necessary to drill a well. And I am further convinced that some of the products of any such undertaking would have merit.

"But the only possible way for any one firm to offer the trade the ultimate product for its every need is to do as Frick-Reid has done: collaborate in the case of each product with the world's most able manufacturing specialists."

Complete Cable Tool Equipment—F-R Electric Light Plants—Warren Steam Engines—Johns-Manville Packings—Carbic Oxy-Acetylene Welding and Cutting Apparatus—etc.

The Frick-Reid Supply Co.

Tulsa, Okla. Pittsburgh, Pa.

West of the Mississippi—Stores Everywhere

In Oil Country Equipment the most HUMAN Organization in America

The ADVERTISERS' INDEX

A

Acme Fishing Tool Co. 124
Acme Petroleum Co. 90
Ajax Iron Works 2-3
Aldrich Pump Co. .....
American Appraisal Co. .....
American Cable Co. .....
American Rolling Mill Co. .....
American Schaeffer-Budenburg Corp. 125
American Sheet & Tin Plate Co.....106
American Tank Co. .....
American Zinc, Lead & Smelting Co.
Ames Shovel & Tool Co. .....
Anderson, Carl B. 128
Anderson & Anderson 129
Andrews Steel Co. 115
Armstrong Bros. Tool Co. 124
Amtorg Trading Corp. 89
Athey Truss Wheel Co. 11
Atlas Ball Co. .....
Austin Co. .....
Axelson Machine Co. .....

B

Baker Casing Shoe Co. 125
Baldwin Chain & Mfg. Co. .....
Barber-Greene Co. .....
Barnickel, Wm. S., & Co. 127
Barnsdall Refining Co. 93
Bartlesville Supply Co. .....
Bay City Foundry & Machine Co....
Bell Pump Co. 121
Bessemer Gas Engine Co. 29
Bethlehem Shipbuilding Corp. .....
Bethlehem Steel Co. .....
Bignall & Keeler Machine Works....103
Biggs Boiler Works Co. .....
Black, Sivalls & Bryson, Inc. 41
Borden Co. .....
Boss Mfg. Co. .....
Bovaird & Seyfang Mfg. Co. .....
Bovaird Supply Co., The 63
Braden Co., The .....
Bradford Motor Works 76
Bridgeport Machine Co. 60-61
Bristol Co. .....
Broderick & Bascom Rope Co.....
Brokaw, Dixon, Garner & McKee...129
Brown & Thomsen 128
Brown Welding & Machine Co..... 80
Buckeye Traction Ditcher Co. .....
Buffalo Forge Co. .....
Buffalo Steam Pump Co. .....
Burns Tool Co. .....
Burt Mfg. Co. .....
Butler Mfg. Co. .....

C

Calorizing Co. .....
Capital Abstract & Realty Co. 125
Carnegie Steel Co. 124
Caudill, Samuel J. 128
Celite Products Co. .....
Central Steel Co. 9
Chain Belt Co. .....
Champion Machine & Forging Co.... 98
Chaplin-Fulton Mfg. Co. 117
Chapman Valve Mfg. Co. 77
Chestnut & Smith Corp. 85
Chicago Bridge & Iron Works .....
Chicago Flexible Shaft Co. .....
Chicago Pneumatic Tool Co. 13
Clapp, Frederick G. 128
Clark Bros. Co. 52-53
Clark, Robert W. 127
Classified Wants 96-97
Climax Engineering Co. 125
Colonial Steel Co. 123
Columbian Rope Co. .....
Columbian Steel Tank Co. 71
Columbus Sucker Rod Co. .....
Connolly, D. F., Agency, Inc.....
Continental Supply Co. .....
Cook Paint & Varnish Co. 88
Cooper, C. & G., Co. 39
Cox & Sons Co., The .....
Crane Co. .....
Cyclone Fence Co. .....

D

D. & B. Pump & Supply Co. .....
Darling Valve Mfg. Co. 10
Dart, E. M., Mfg. Co. .....
Davis, G. M., Regulator Co. .....
Dawson Towel Supply Co. 125
Dayton Pipe Coupling Co. .....
.....Inside Front Cover
De Laval Separator Co. .....
De La Vergne Machine Co. .....
Delta Electric Co. .....
Deming Co. .....
Diamond Drill Carbon Co. 125
Diamond Drilling & Exploration Co..127
Dickey-Ashby-Fountain Co. 125
Dixon, Joseph, Crucible Co. .....
Dorn, R. J., Co., Inc. .....

D

Dresser, S. R., Mfg. Co. 35
Duff Mfg. Co. .....
Dunn Mfg. Co. .....

E

Eagle Picher Lead Co. 1
Eastern Torpedo Co. .....
Edward Valve & Mfg. Co. .....
Empire Refineries, Inc. .....
Equitable Meter Co. .....
Essex Brass Corp. 129
Exchange National Bank .....

F

Fairbanks-Morse Co. 57-58
Federal Engineering & Supply Co...125
Fenwick-Reddaway Mfg. Co. 124
Fisher Governor Co. .....
Foamite-Childs Corp. .....
Fohs, F. Julius 127
Foos Gas Engine Co. .....
Fort Worth Laboratories 126
Foster, Dean E., Corp. .....
Foster & Reiter 127
Foxboro Co., Inc., The 129
Francis, Bro. & Co. 129
Franklin Valveless Engine Co. .....
Freeborn Engineering Co. 126
Frick-Reid Supply Co. 16
Frost Generator Co. 123

G

Gantz Tank Co. .....
Gaso Pump & Burner Mfg. Co.....
.....Inside Back Cover
General American Tank Car Corp...
General Electric Co. .....
General Gear & Machine Works....129
General Motors Truck Co. .....
Gilbert & Barker Mfg. Co. .....
Gomory, W. L. 127
Goodrich, B. F., Rubber Co., Inc.... 79
Goodyear Tire & Rubber Co. 102
Goulds Mfg. Co. 128
Graver Corp. .....
Greenhalgh, J. H., & Co. .....
Greene, Frank C. 127
Greene-Tweed & Co. .....
Griscom-Russell Co. .....
Guiberson Corp. 69
Gurley, W. & L. E. .....

H

Halliburton, Erle P. .....
Harrisburg Pipe & Pipe Bending Co..
Havana Manufacturing Co. .....
Hazard Mfg. Co. 123
Henry, George W. 125
Herald Brothers 129
Hercules Corp. 110
Heydrick Mapping Co. 124
Hill-Hubbell & Co. .....
Hinderliter Tool Co. .....
Homestead Valve Co. .....
Hood, H. H. 129
Hoover & Allison Co. .....
Hoover Steel Ball Co. .....
Hope Engineering & Supply Co. 82
Hopkins, Edwin B. 127
Hough, Chas. N., Mfg. Co. 122
Hughes Tool Co. .....Back Cover
Hunt, Robert W., Co. 129
Huntley & Huntley 126

I

Illinois Glass Co. .....
Imperial Belting Co. 129
Imperial Brass Mfg. Co. .....
Industrial Construction Co. .....
Ingersoll-Rand Co. .....
International Derrick & Equipment Co. 49
International Harvester Co. of America .....
International Motor Co. .....
International Nickel Co. .....
International Supply Co. 75
Iron King Manufacturing Co. .....

J

Jarecki Manufacturing Co. 8
Jacobson Engine Co. 122
Johns-Manville, Inc. 81
Johnson, Roswell H. 128
Jones, S. M., Co. .....
Jones Oil Well Reamer Co. .....

K

Kansas City Bolt & Nut Co. .....
Kansas City Hay Press Co. .....
Kansas City Structural Steel Co. ...117
Kaw Boiler Works Co. 5

K

Kellogg, M. W., Co. 103
Kelly & Jones Co. 83
Kelly-Springfield Tire Co. .....
Kerr, John B. 126
Kesselman & Co. 127
Keuffel & Esser Co. 127
Kewanee Boiler Co. 45
Kinney Mfg. Co. 121
Kirk, Charles T. 128

L

Lafe Speer Abstract Co. 125
Landis Machine Co. .....
Larkin & Co. 111
Larkin Packer Co. .....
Lasky, Bernard H. 128
Layne & Bowler Co. .....
Lebus Rotary Tool Works .....
Leidecker Tool Co. .....
Lewis, James O. 129
Link-Belt Co. .....
Longyear, E. J., Co. 127
Lucey Mfg. Corp. .....
Ludlow Valve Mfg. Co. 121
Lufkin Rule Co. 127
Lunkenheimer Co. .....

M

Magnolia Petroleum Co. .....
Maloney Tank Mfg. Co. 107
Manzel Bros. Co. .....
Marsh Gauge Pole Co. .....
Matson, George C. 129
Matteson, W. G. 127
Merco-Nordstrum Valve Co. .....
Meriam Co. .....
Messimer, H. H. 128
Metric Metal Works .....
Miller, Max B. & Co., Inc. .....
Moon Mfg. Co. 120
Moore, Lee C., & Co., Inc. 4
Morrison Bros. .....
Munn & Co. 126

Mc

McCord Radiator Mfg. Co. .....
McDonald, A. Y., Mfg. Co. .....
McIntosh & Seymour Corp. 112
McGregor Working Barrel Co. .....
McNutt, V. H. 127

N

National Airoil Burner Co. .....
National Lead Co. .....
National Meter Co. 120
National Supply Co. 66-67
National Transit Pump & Machine Co. 78
National Turnbuckle Derrick Co. ...
National Tube Co. .....
New Bedford Cordage Co. .....
Norris Brothers 120
North American Car Co. .....
Northern Oil Information Bureau...123
Northrup Equipment Co. 123
Nye Tool & Machine Works .....

O

O'Brien Steel Construction Co.....113
Ohio Steel Foundry Co. 15
Oil Conservation Engineering Co.... 95
Oil Well Improvements Co. 39
Oil Well Supply Co. 33
Oklahoma Steel Castings Co. .....

P

Page Fence & Wire Products Assn...
Panyity, L. S. 129
Parker Cup & Specialty Co. .....
Parkersburg Machine Co. .....
Parkersburg Rig & Reel Co. 12
Pattin Bros. Co. 114
Penn American Refining Co. .....
Pennsylvania Petroleum Co. 125
Petroleum Iron Works 91
Pforzheimer, Carl H., & Co. 119
Pioneer Tank & Boiler Co. 126
Pittsburgh Des Moines Steel Co. ...
Pittsburgh Meter Co. 117
Pittsburgh Pipe Coil & Bending Co..
Pittsburgh Reinforced Brazing & Machine Co. .....
Powell, Wm., Co. .....
Power Mfg. Co. 113
Power Piping Co. .....
Producers & Refiners Corp. 73
Pure Oil Co. 6
Pyle National Co. .....

Q

Quesada, Irving G. 126

R

Reading Iron Co. .....
Reading Steel Castings Co. 128
Reed Roller Bit Co. 55
Regan Forge & Engineering Co. ...
Reid, Joseph, Gas Engine Co. 74
Republic Iron & Steel Co. .....
Republic Rubber Co. .....
Republic Supply Co. 99
Rich, John L. 128
Ring, Dewitt T. 129
Robinson, Heath M. 129
Robinson Packer Co. .....
Rock Island Plow Co. 70
Roots, P. H. & F. M., Co. .....
Ross-Gould Co. .....
Ross-Meehan Foundries.....128
Rotary Disc Bit Co. .....
Ryerson, Joseph T., & Son 128

S

Sand Springs Water Co. 125
Schley, Jack A. 126
Shaffer, J. E., Co. .....
Shippers Car Line Co. 126
Sinclair Refining Co. 31
Sivyer Steel Castings .....
Smith, A. O., Corp. .....
Smith Separator Co. .....
South Chester Tube Co. .....
Spang & Co. 65
Spengler Core Drilling Co. .....
Stalder, Walter 127
Standard Engineering Co. 115
Standard Seamless Tube Co. .....
Standard Tank Car Co. .....
Stanley Belting Corp. .....
Star Drilling Machine Co. 68
Stewart, Irvine E. 129
Sullivan Machinery Co. 119
Superior Tube Co. 51

T

Tagliabue, C. J., Mfg. Co. 116
Templeton, Kenley & Co., Ltd. ....
Texas City Terminal Railway Co...
Texas Co., The 94
Texas Gulf Sulphur Co. .....
Texas Oil Pump Co. .....
Thomas, J. Elmer 128
Tide Water Oil Co. .....
Titusville Forge Co. .....
Titusville Iron Works 7
Tnemec Paint & Oil Co. .....
Toledo Pipe Threading Machine Co..118
Trimont Manufacturing Co. 119
Trumble Gas Trap Co. .....
Truscon Steel Co. 92
Tulsa Ice Co. 125

U

United Iron Works 118
U. S. Tool Co. .....
Universal Oil Products Co. 87

V

Vogt, Henry, Machine Co. .....

W

Wall Rope Works, Inc. 109
Walworth Mfg. Co. .....
Warren City Tank & Boiler Co..... 72
Washburne, C. W. 127
Waukesha Motor Co. 116
Wertzberger Derrick Co. .....
Westcott Valve Co. .....
Western Bank Supply Co. 125
Western Machinery Co. 47
Westinghouse Electric & Mfg. Co....
Wheeling Steel Corp. .....
White Company .....
Whitlock Cordage Co. .....
Wickwire-Spencer Steel Corp. .....
Wico Electric Co. .....
Williams, J. H., & Co. 129
Williams Tool Corp. .....
Williamsport Wire Rope Co. .....
Wilson & Snyder .....
Wilson & Willard Mfg. Co...Front Cover
Wilson Welder & Metals Co. .....
Winchester, Dean E. 126
Wirth, Alfred, & Co. .....
Wood & Wood 128
Worthington Pump & Mach. Corp...
Wright, Harry F. 126
Wright Manufacturing Co. .....

Y

Yale & Towne Manufacturing Co...